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## Original Articles

### The Heart in Hypertension\*

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THE problem of the heart in hypertension is essentially the problem of the heart in late middle life. It is probable that a large proportion of the patients from forty to sixty years of age that come to the physician with heart trouble have or have had at some time high blood pressure.

In the brief time at our disposal it is obviously impossible to do justice to a subject as vast and as important as that of the heart in hypertension. It will be our endeavor tonight to discuss briefly the chief symptoms and signs referable to the heart in pure vascular hypertension. We shall speak briefly, also, about the x-ray findings in a series of fifty plates of the heart, taken at a distance of seven feet, and shall also say a word or two about some electrocardiographic changes. Finally, we shall discuss the question of prognosis and treatment.

At the very beginning, we wish to emphasize the point that in hypertension the heart is only one element in the general vascular disorder. It may be the object of no concern whatever or it may be the weakest link in the entire chain. In the series of one hundred cases which we have studied in preparation for this paper, the average age of the patients was fifty-five. The blood pressure ranged from 152/76 to 290/170. The average was about 210/110. How important the cardiac disorder is in this group is indicated by the fact that in 28 per cent. the diagnosis of "chronic myocarditis" was made. In addition, cardiac symptoms were noted in a much larger number of these patients. Dyspnea, of course, was the most frequent symptom. It occurred in 60 per cent. of our group. It varied from slight breathlessness on considerable exertion to marked respiratory difficulty even when reasonably quiet. Cheyne-Stokes breathing fre-

quently occurred as a terminal event. Another type of dyspnea that deserves special mention is that of paroxysmal nocturnal smothering. This is closely allied to angina pectoris in its origin, and in its response to nitrite therapy. In the group under consideration, this distressing symptom occurred in thirteen patients. This symptom had no fixed relation to the height of the blood pressure, occurring with pressures as low as 160/95. It was much more common, however, in those with high diastolic pressures. Curiously enough, in this small series paroxysmal dyspnea occurred in only one patient who had precordial pain. Cardiac pain is most commonly present as a dull ache in the region of the apex and lower precordia. Pain at the base of the heart, not the classical angina pectoris, is less common. Typical angina occurred in only three of our cases. This figure seems much lower than our impression of hypertensive patients as a whole. This impression may be influenced somewhat by the fact that most cases of angina are hypertensive. Levine has found that 65 per cent. of his cases of angina had high blood pressure. Perhaps we were influenced by his findings. If we add to our group of three, those cases that showed the allied sub-sternal compression, the group increases to fourteen. This symptom is truly a part of the syndrome of angina. Not infrequently it antedates the appearance of the classical and perhaps fatal pain. Tenderness in the region of the apex is a very frequent complaint. Edema of the legs, varying in degree, was present in 29 per cent. of our series. Acute pulmonary edema did not occur in any of our cases.

Of the signs, hypertrophy is, of course, by all means the commonest abnormality found. By the classical methods of physical examination alone, it was found in 83 per cent. of our cases. If we add to this the results of x-ray examinations, the percentage is still greater. However, some cases show no cardiac hypertrophy. In a

\*Read at a meeting of the Association of Cardiac Clinics at the Boston City Hospital on March 13, 1923. This paper is No. 13 of a series of studies in metabolism from the Harvard Medical School and allied hospitals. The expenses of this investigation have been defrayed in part by a grant from the Proctor Fund, of the Harvard Medical School, for the Study of Chronic Diseases.

series of fifty seven-foot plates of the heart, the ratio between the total width of the heart and the chest width was increased in 96 per cent. of the cases. This hypertrophy is, of course, usually and chiefly of the left ventricle.

Thirty out of fifty electrocardiograms studied show left ventricular preponderance. Twenty-nine showed no preponderance at all, and one showed questionable right preponderance. This lack of left ventricular preponderance in hearts that are obviously enlarged to the left is often disconcerting until we realize that the electrocardiogram is giving us deviation from an axis that may not be quite the usual one. The lack of preponderance is explained at times by the fact that both sides of the heart are equally hypertrophied.

The condition of the great vessels in hypertension is one of the greatest interest. In practically every case of any duration, changes take place. There is a definite diffuse widening of the arch and, in the older cases at least, a tendency toward tortuosity. The increase in the size of the great vessels may be indicated by a greater percussion dullness in the second interspace. In our cases 48 per cent. showed such an increased supra-cardiac dullness. One can, however, place little confidence in the supra-cardiac dullness itself, or even in the standards given for such dullness. On the other hand, seven-foot plates of the heart cannot be criticized. In a series of fifty such plates the measurements of the great vessels were abnormal in fifty per cent. of the cases. In thirteen cases the supra-cardiac shadow was over 6 cm., in seven it was over 7 cm., in two it was over 8 cm., and in three it was greater than normal for the size of the individual. The widened shadow may be due to dilatation or tortuosity of the aorta, or to a combination of the two. In four cases in this series the aorta was tortuous, although the supra-cardiac shadow was not more than 6 cm. Fluoroscopy often shows a very sharp pulsation at the upper end of the ascending portion of the arch in hypertensive patients. In our cases there seemed to be no relation between the size of the aorta and the blood pressure.

Closely related to this diffuse dilatation of the aorta are certain murmurs at the base of the heart. These may be of three types. The commonest is a simple blowing systolic murmur at the base, extending up into the neck. The second is a similar coarse systolic which in the absence of the signs of stenosis indicates an aortitis. The third is the rather uncommon, transient diastolic whiff heard at the base. Its origin and significance is still unknown. Perhaps it is one of those so-called "impossible" relative aortic insufficiencies. Perhaps it is pulmonary. At any rate, post-mortems have so far failed to disclose the etiology of these transient diastolic murmurs. Systolic murmurs at the apex are much more common, occurring in sixty-

seven of our cases. These murmurs are undoubtedly due to a relative mitral insufficiency and probably are of little import.

Closely related to the dilated aorta, and worthy of mention, is the pulsation in the vessels in the neck. While pulsations may be noted in the suprasternal notch and in both supraclavicular regions, the most common finding is a marked pulsation in the right side, occasionally associated with an actual elevation of the right subclavian artery.

The second sound in the aortic area is accentuated in more than half of the cases and frequently it is ringing. The tympanic note characteristic of aortitis—according to Allbutt—is not often heard. The character of the apical first sound is of very great import, indicating, when properly interpreted, the condition of the myocardium. In our series 30 per cent. showed a weak first sound and 25 per cent. a strong first sound.

The rhythm of the heart in hypertension is usually regular, although in our series thirty showed some abnormality. The commonest type of arrhythmia was that of the extra-systole which was demonstrated clinically in 27 per cent. of our 100 cases. By electrocardiographic methods it was recorded in ten out of fifty tracings. The decrease in incidence of extra-systoles by the electrocardiographic method is, of course, due to the fact that the tracings did not happen to be taken when the premature beats occurred. Of these ten recorded, four were auricular extra-systoles and six were ventricular. Auricular fibrillation was much more common than we had anticipated. It was noted in 11 per cent. of our group. Paroxysmal tachycardia occurred only once.

Delayed conduction was demonstrated twice, partial heartblock once, and defective intra-ventricular conduction once. An important prognostic finding in electrocardiographic records of these cases—when it is not due to digitalis therapy—is an inverted T-wave in Lead I. In our fifty cases this was recorded seven times in Leads I and II and once in Lead I alone. In five of the seven this inversion might have been due to digitalis. In the other two tracings this phenomenon could not be attributed to digitalis. In addition the T-wave was found to be diphasic in Leads I and II in three tracings. Two out of these three followed the use of digitalis.

#### PROGNOSIS

Patients may live 15 to 20 years with hypertension. On the other hand, in a patient with so-called "malignant hypertension", the whole course of the disease may be less than two years. Time is the great prognosticator. The best way to judge the course of a disease is to watch it at intervals and note the rate and the course it is travelling.

Confining our remarks to the heart itself, we must say, first, that the heart may perform good and efficient service throughout the entire course of the vascular disease. Remember that an hypertrophied heart is not necessarily a pathological one. Remember, too, that a patient with considerable evidence of cardiac pathology may live for many years with absolutely no symptoms referable to his heart. We have had such a case under observation since 1916. This old gentleman was diagnosed as chronic myocarditis at that time, and as far back as 1919 has shown delayed conduction time and other evidences of myocardial pathology. And yet, this patient almost indignantly denies that he is short of breath. He has no cardiac pain. What is the answer? It is that he never puts his heart to the test of effort. He just "putters about". We do not believe he ever moves faster than two miles per hour. Nothing excites him. His sphere of activity is very limited.

The prognosis of the heart in hypertension depends upon three elements:

(1) The amount of strain. This may be the strain of living, or, more specifically, the strain against which the heart is beating. The latter is indicated by the height of the diastolic pressure. This measures the tonicity of the peripheral arteries and arterioles. Given a constantly high diastolic pressure, the prognosis is poor. Usually, however, these patients die of a cerebral accident before the heart wears out.

(2) The condition of the coronary arteries. It is obvious that disease of these vessels may result in a poorer nutrition of the myocardium supplied and a consequent decreased efficiency of the heart. Furthermore, the likelihood of death from angina and coronary infarct must always be borne in mind. In Janeway's cases 7 per cent. died in this way. In this connection, it is worth while to reiterate what Levine has pointed out,—that those cases of angina with systolic pressures around 160 to 170 are the cases most to be feared.

(3) The condition of the myocardium, which may be the result of factors (1) and (2). Here the evidence pointing to a grave outlook consists of a poor response to effort, a weak first heart sound, a persistently high cardiac rate, gallop rhythm, pulsus alternans, an inverted T-wave in Lead I of the electrocardiogram when a digitalis effect can be excluded, a low vital capacity, defective conduction time, heart-block and, perhaps, fibrillation.

#### TREATMENT

The question of therapy can be quickly disposed of. The treatment of the heart in high blood pressure is the treatment of the general vascular disorder,—a general paring-down of physical effort and a relief from the nervous stimuli which are forever shooting up the pressure. Rest after meals and abundant rest at

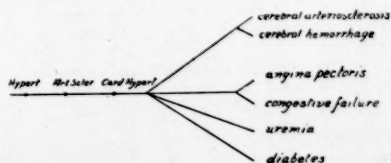
night are absolutely essential. Enough daily physical exercise to keep the cardiac and skeletal muscles in optimum tone is also indicated.

When attention must be given to the hypertensive heart the treatment of this organ is exactly the same as the treatment of heart disease in general. Congestive failure should be treated in the classical way with rest in bed, morphia, perhaps, and digitalis. Right here we should like to dispose once and for all of the false notion that digitalis is contraindicated in high blood pressure. The indications for digitalis therapy are exactly the same in high blood pressure as in low.

For angina pectoris or the nocturnal smothering, digitalis and, perhaps, diuretin are indicated for prolonged effect, and nitroglycerin or amyl nitrite for the immediate attack. Bleeding may be of value not merely to relieve the right side of the heart, but also for its general vascular effect. Nerve sedatives, such as bromide, chloral, codein or morphine, are often extremely helpful.

Pulmonary edema, which at times occurs in these cases, may be treated by the intravenous use of one milligram of strophanthin, if the patient has not previously been digitalized. Bleeding is sometimes of value, and atropine and morphine may be used. Adrenaline is commonly used in the treatment of this condition, but we should advise against it in cases with hypertension, because of the sharp rise in blood pressure that follows its use.

Finally, we wish to come back to the statement made in the early part of this paper. It cannot be reiterated too often that the heart (or the kidneys or the blood vessels) is only one element in the general vascular disorder. In connection with this statement we should like to leave with you a theoretical scheme which we have found useful in explaining some of the various phenomena in this so-called cardiovascular-renal syndrome. Let us accept, for the time being, the prevalent theory about the development of hypertension and arteriosclerosis. Let us admit that hypertension comes first, and that sclerosis, particularly of the small vessels, is a result. Then we may have a scheme of development such as the following:



In this scheme cardiac hypertrophy is an early phase. Subsequently our hypertensive patient may develop along the cardiac line and die from congestive failure or angina. The pro-

cess may advance along the cerebral route and our patient may have a cerebral accident or a more general cerebral disorder. The course may be entirely within the kidneys and our patient die of uremia. Finally, the vascular disorder may be responsible for the diabetes of the old, or for disease processes in other organs harder to reach and, therefore, harder to estimate.

It is extremely important to realize that the disturbance is rarely confined to one of these

channels. If this is borne in mind, we will have no difficulty in explaining the curious combinations that occasionally occur. For instance, a recent patient showed occasionally a little sugar in the urine, some evidences of chronic nephritis, a marked angina pectoris and yet died of a cerebral hemorrhage. This is very easily explained in our scheme which seems to us to be a convenient method of allocating the various factors in the so-called "cardio-vascular-renal syndrome".

### Ventricular Fibrillation Following Ectopic Ventricular Tachycardia

BY WILLIAM D. REID, M.D., NEWTON, MASS.

In experimental work on animals it is well known that ectopic tachycardia arising in the ventricle is likely to be superseded by ventricular fibrillation and death. So far as I am aware, no clear-cut case in a human subject has yet been published, and hence I am recording the following case, with some discussion of the same.

#### CASE REPORT

Woman, aged 80 years. Entered the Boston City Hospital February 5, 1923.

**Present Illness.** The patient has been dyspneic on slight exertion during the past four months. For two months there have been frequent attacks of palpitation. She had done much manual labor up to six weeks ago, when her ankles became swollen and the dyspnea and palpitation increased; has been confined to bed the past four weeks and has grown progressively worse. The swelling has gradually extended up the legs and to the abdominal wall.

**Past History.** Measles, mumps and whooping-cough in childhood. Denies rheumatic fever, chorea, scarlet fever, etc.

**Weight:** maximum (before onset of swelling), 135 pounds.

**Physical Examination.** Well developed and nourished. Severe dyspnea and considerable cyanosis. Cervical veins engorged and pulsating markedly.

**Lungs:** Both bases dull; there is flatness and diminished tactile fremitus at the right base below the mid-scapular region and extending to the right lower front. Bronchial breathing and egophony above this area with a few scattered rales. Many moist bubbling rales in the left chest.

**Heart:** Impulse palpable in the fifth space at anterior axillary line, accompanied by a systolic thrill. Absolute arrhythmia; apex rate 124, wrist 78, deficit 46. Loud first sound at apex with systolic and mid-diastolic murmurs. Pulmonic second sound louder than aortic second, but not accentuated.

**Abdomen:** Slightly distended, wall edematous, no shifting dullness detected. Liver edge two cm. below costal margin in right mammillary line.

**Thick, brawny edema of legs and dependent parts of trunk.**

**Blood Wassermann reaction negative.**

February 6. The heart action suddenly changed to a regular tachycardia, rate 160.

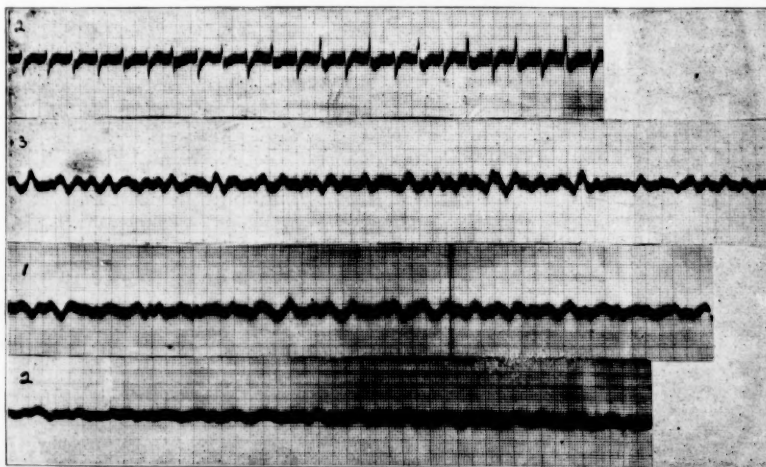


FIG. 1.—Electrocardiograms taken during the death of the patient. The Leads are indicated by the numbers on the tracings. Ordinates = one-tenth of a millivolt; coarse abscissae = 0.2 second.

February 7. The regular tachycardia continues but is interrupted by periods of a few seconds during which the heart rate is much slower, estimated at about 50 to 60 per minute.

An electrocardiogram (Figure 1) was taken.—the first photograph showing ventricular ectopic tachycardia, and the remaining three ventricular fibrillation. The patient was resting comfortably just before the tracing was made; death occurred peacefully as the records of ventricular fibrillation were taken. Examination of the anterior chest just previous to the taking of the electrocardiogram disclosed no râles, and no tracheal râles were audible as death ensued.

#### THE ELECTROCARDIOGRAMS

The first tracing is interesting in that the latter half shows a definite alternation of the ventricular complexes. C. Schwensen<sup>1</sup> published an electrocardiogram almost identical with the latter half of this one of mine; in his the alternating mechanism was present throughout. The rhythm reverted to auricular fibrillation, and death followed somewhat later. A similar electrocardiogram appears (Figure 6 of a report by T. Lewis and A. G. Levy<sup>2</sup>) on the behavior of the cat's heart under chloroform anesthesia. Ultimately this mechanism changed to ventricular fibrillation with the death of the animal.

The last three tracings (Figure 1) of our case represent the mechanism of ventricular fibrillation and show a progressive slowing of the excitation wave. The individual curves were obtained at intervals of 20 to 25 seconds from that of the ventricular ectopic tachycardia and from each other. An electrocardiogram very similar to our last three was published by R. H. Halsey.<sup>3</sup> In a study of the mechanism present at death G. C. Robinson<sup>4</sup> obtained this type (*e.g.*, ventricular fibrillation) of electrocardiogram in two out of seven cases. A more recent report by W. J. Kerr and W. L. Bender<sup>5</sup> gave somewhat different electrocardiographic curves. Some of the latter more closely resemble ventricular ectopic tachycardia. One curve is unique in that it depicts a series of fine oscillations at the rate of 1500 per minute. This patient was alive nine months after the aforesaid electrocardiograms were taken.

#### EXPLANATION OF THE ARRHYTHMIA

Garrey<sup>6</sup> in 1914 considered that the essential condition of fibrillation was the occurrence of "blocks," *i.e.*, of portions of decreased conductivity and excitability located now in one part and now in another of the myocardium. A. G. Levy<sup>7</sup> in the same year stated his belief that a circulating rhythm underlies the rhythm known as ventricular fibrillation.

As regards the nature of ventricular ectopic tachycardia, R. W. Scott<sup>8</sup> suggests that it may be that of reentrant beats. Kerr and Bender<sup>5</sup> hold that the periods of ventricular tachycardia

suggest a circus movement in the ventricle. Certainly the period of rapid oscillations in one of the electrocardiograms published by these latter observers finds its nearest counterpart in some of the tracings published by Lewis<sup>10</sup> and his co-workers in their studies of the reexcitation waves which were sometimes found to occur at a rate as high as 1500-2400 per minute.

Two papers by S. de Boer appear to contain some pertinent statements as regards the nature of ventricular fibrillation and ectopic tachycardia. I will quote from them rather freely.

After referring to Garrey's<sup>11</sup> conception of the existence of "blocks" in the myocardium, De Boer writes<sup>12</sup>:

"As set forth above, the refractory stage of the contraction, generated at the outset of the excitable period, is shortened. When the excitation wave, after an extra stimulus, goes through the ventricle in stages, the time of such a circulation is lengthened considerably. And when the excitation wave reaches the starting-point again, this contracts, because the short refractory stage of the preceding contraction has already come to a close. The excitation wave proceeds through the ventricle once more, and again in jerks. Thus the excitation wave keeps on circulating through the ventricle, and fibrillation is checked only when it strikes on a refractory region."

"For fibrillation two conditions must be fulfilled: (1) the refractory stage must be shortened; (2) the conductivity of the stimulus through the ventricle must be decreased."

"In the preceding paper I have shown that if a bloodless heart of a frog is taken, a single electrical stimulus is capable of causing fibrillation of the ventricle. Thus a bad metabolic condition of the heart favours fibrillation. Essential factors in fibrillation are, as on Mines' theory, decrease in the rate of conduction and in the duration of the refractory period, so that a circulating excitation can be set up. . . . According to my theory, fibrillation of the ventricle consists of a linking together of fractional ventricular systoles."

And in the second paper<sup>13</sup> De Boer states:

"Conduction through the muscle is slowed both in recurring extra systoles<sup>14</sup> and in fibrillation; the difference between them is that, in the former, conduction takes place evenly, and in the latter it takes place in stages. The intimate connection of the two phenomena is shown by the fact that each may pass into the other."

It would seem that sufficient has now been cited to show that I have the support of several other observers when I state that I consider the electrocardiograms obtained from this patient (Figure 1) to be due to the operation of an excitation wave traveling in a circle in the myocardium of the ventricle; in the last three, *i.e.*, those depicting fibrillation, the conduction is less perfect and the wave is conducted more and

more irregularly. It is suggested that the change to the alternating mechanism shown in the latter half of the electrocardiogram of the ventricular ectopic tachycardia may be due to a decrease in the power of conduction in the ventricle, so that the wave is able to travel the same route only on alternate circuits. It is emphasized that electrocardiograms are composites of the electrical changes (changes in potential) occurring in right and left ventricles, and in different parts (central, apical, basal, etc.) of the myocardium. In one of the series of the alternate heart cycles the excitation wave was traveling mainly away from the leg electrode (Lead 2 being in use) and toward it in the other series. For further information on this point the reader is referred to a paper by Sir Thomas Lewis.<sup>15</sup>

The electrocardiograms (Figure 1) of this patient were obtained during the course of digitalis therapy. The reasons on which I base the assertion that the first curve depicts a paroxysm of tachycardia rising in the ventricle have been presented elsewhere,<sup>16</sup> and it was shown that an excess of digitalis had been administered.

#### SUMMARY

A case is reported in which ventricular tachycardia was followed by ventricular fibrillation.

The nature of the mechanisms is discussed and it is suggested that both are due to the excita-

tion wave traveling in a circular path through the ventricular muscle.

This is the first instance, so far as I am aware,<sup>17</sup> in which electrocardiograms taken from a human being have shown the sequence of ventricular ectopic tachycardia to fibrillation of the ventricles.

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- 16 Held, W. D.: Some Toxic Effects of Digitalis. *Jour. Amer. Med. Assn.*, 81: 435, Aug. 11, 1923; and Ventricular Ectopic Tachycardia Complicating Digitalis Therapy. *Arch. Int. Med.*, 33, 1: 25, Jan. 15, 1924.
- 17 Kerr and Bender's case (Reference 5), though quite different, is a possible exception.

## Strangulated Hernia: Analysis of Thirty Cases

BY MARTIN T. FIELD, M.D., F.A.C.S., SALEM, MASS.

STRANGULATED hernia is an important surgical problem. Its careful consideration must be entertained in many acute abdominal disorders. Prompt surgical treatment gives the most gratifying results; non-recognition or neglect usually means death.

This report includes only inguinal and femoral herniae. My records for the past five years (and one month), January 1, 1919, to date (February 1, 1924), have been reviewed. During this period I have operated on 272 persons for inguinal and femoral herniae; 30 of these were strangulated. All cases seen were operated on; there was one death—mortality, 3.3 per cent.

#### BRIEF REPORT OF CASES

CASE 1.—March 27, 1919. J. G., male, aged 3 years. Strangulated right oblique inguinal hernia, 8 hours' duration. Operation, Salem Hospital. Ether. Loop of small intestine, very dark, reduced. Radical cure. Discharged from hospital April 1, in good condition. Stitches removed at home.

CASE 2.—July 19, 1919. Mr. H., aged 83. Strangulated left direct inguinal hernia, 48 hours' duration. Pain, distention and vomiting of fecal character.

Operation, Thomas Hospital, Peabody. Novocain. Loop of black small intestine relieved of constriction. Radical cure following removal of testicle. Delirious for several days. Discharged well July 24.

CASE 3.—July 20, 1919. Mrs. D., aged 48. Strangulated right femoral hernia, 16 hours' duration. Operation, Thomas Hospital. Ether. Small sac contained large gangrenous appendix. Appendix removed; sac excised; radical cure. Discharged well August 12.

CASE 4.—Sept. 6, 1919. Mrs. McN., aged 64. Strangulated right femoral hernia, 8 hours' duration. Operation, Thomas Hospital. Ether. Mass of gangrenous omentum excised. Radical cure. Discharged well Sept. 19.

CASE 5.—Dec. 10, 1919. Mrs. C., aged 65. Strangulated right femoral hernia, 10 hours' duration. Operation, Addison Gilbert Hospital. Ether. Small piece of omentum and knuckle of small intestine badly constricted. Omentum resected; color of intestine improved after hot applications were applied. Radical cure. Discharged well Dec. 26.

CASE 6.—Dec. 11, 1919. Mr. C., aged 71. Strangulated right oblique inguinal hernia, 6 hours' duration. Operation, Salem Hospital. Novocain. Several inches of small intestine, dark in color, within sac. Constriction relieved. Color improved following hot applications. Testicle removed; radical cure. He had strangulation on the same side two years before, for which operation had been performed. Discharged well Dec. 28.

CASE 7.—Jan. 22, 1920. Mrs. D., aged 59. Strangulated left oblique inguinal hernia, 8 hours' duration. Operation, Salem Hospital. Ether. A foot of small intestine, very dark in color, with indurated mesentery, reduced. Radical cure. Discharged well Feb. 8.

CASE 8.—May 26, 1920. Mrs. M., aged 40. Strangulated right femoral hernia, 10 hours' duration. Operation, Thomas Hospital. Ether. Large mass of omentum strangulated. This was resected. Radical cure. Discharged well June 4.

CASE 9.—June 27, 1920. Mr. B., aged 77. Strangulated right oblique inguinal hernia, 9 hours' duration. Operation, Salem Hospital. Novocain. Small intestine strangulated. Radical cure, testicle first having been removed. Discharged well July 11.

CASE 10.—Sept. 4, 1920. Miss O'C., aged 86. Strangulated right femoral hernia, 4 days' duration. Abdominal pain, distention and fecal vomiting for over 2 days. Loops of distended bowel evident. Operation, Thomas Hospital. Novocain. Sac contained dark small intestine. Color did not return well. Thought it better to rely on the chances of peritoneal adhesions and waiting off than to resect. To my surprise, convalescence was uneventful, radical cure having been performed. Left hospital well, Sept. 20.

CASE 11.—Sept. 13, 1920. Miss O'R., aged 53. Strangulated right femoral hernia, size of fist, 7 hours' duration. Operation, Addison Gilbert Hospital. Ether. Sac contained piece of omentum and knuckle of dark small intestine. Omentum resected and radical cure performed. Discharged well Sept. 28.

CASE 12.—Sept. 18, 1920. Mr. P., aged 24. Strangulated right oblique inguinal hernia, 6 hours' duration. Operation, Salem Hospital. Ether. A knuckle of small intestine constricted. Radical cure. Discharged well Oct. 2.

CASE 13.—Sept. 27, 1920. Mrs. F., aged 90. Strangulated right femoral hernia, 3 days' duration. Pain, prostration and vomiting. Operation, Salem Hospital. Novocain. Small coil of very dark bowel reduced. Having had fortunate experience with preceding case, resection was not attempted. Discharged from hospital in good condition, 4 days later. Rest of her convalescence uneventful.

CASE 14.—Sept. 28, 1920. Mr. G., aged 53. Strangulated right oblique inguinal hernia, 6 hours' duration. Operation, Salem Hospital. Ether. Knuckle of small bowel reduced. Discharged well Oct. 16.

CASE 15.—Oct. 4, 1920. Mr. B., aged 67. Strangulated left femoral hernia, 11 hours' duration. Much pain and vomiting. Operation, Salem Hospital. Novocain. Piece of dark small intestine reduced with difficulty. Radical cure. Discharged well Oct. 19.

CASE 16.—Jan. 4, 1921. Mr. B., aged 40. Strangulated left oblique inguinal hernia, 10 hours' duration. Operation, Thomas Hospital. Ether. Small intestine strangulated. Radical cure. Discharged well Jan. 19.

CASE 17.—Aug. 22, 1921. L. L., male, aged 2 years. Strangulated right oblique inguinal hernia, 4 hours' duration. Operation, Salem Hospital. Ether. Small intestine strangulated. Radical cure. Discharged well Sept. 1st.

CASE 18.—Aug. 22, 1921. Mr. K., aged 18. Strangulated right oblique inguinal hernia, 7 hours' duration. Operation, Salem Hospital. Ether. Small intestine strangulated. Radical cure. Discharged well Sept. 4.

CASE 19.—Dec. 5, 1921. Mr. H., aged 26. Strangulated right oblique inguinal hernia, 6 hours' duration. Operation, Thomas Hospital. Ether. Loop small intestine strangulated. Radical cure. Discharged well Dec. 19.

CASE 20.—Dec. 26, 1921. F. G., male, aged 3 months. Strangulated right oblique inguinal hernia, 8 hours' duration. Loop of small black intestine free within tunica vaginalis; considerable fluid present. Radical cure. Discharged from hospital same day. Convalescence uneventful. Operation under ether at Thomas Hospital.

CASE 21.—June 14, 1922. Mr. L., aged 62. Strangulated right oblique inguinal hernia, 18 hours' duration. Operation, Salem Hospital. Novocain. Large hernia mass consisting of dark small intestine, reduced. Testicle removed; tissues very poor. Radical cure. Discharged well June 26.

CASE 22.—July 2, 1922. Mrs. C., aged 48. Strangulated right femoral hernia, 12 hours' duration. Operation, Thomas Hospital. Novocain. Patient had a very bad heart. Dyspnoea was so great that she had to be propped upon five pillows during the operation. Loop of small dark intestine reduced with difficulty. Radical cure. Discharged with heart greatly improved, July 15.

CASE 23.—July 22, 1922. Mrs. L., aged 42. Strangulated right femoral hernia, 9 hours' duration. Operation, Thomas Hospital. Novocain. Hernia, size of plum, consisted of dark small intestine. Radical cure. Discharged well August 2.

CASE 24.—July 30, 1922. Mrs. I., aged 45. Strangulated right femoral hernia, 28 hours' duration. Operation, Thomas Hospital. Novocain. Sac contained knuckle of very dark small intestine. Radical cure. Discharged well August 18.

CASE 25.—May 11, 1923. P. P., male, aged 4 years. Strangulated right oblique inguinal hernia, 14 hours' duration. Operation, Thomas Hospital. Ether. Large sac found, containing strangulated small intestine. Radical cure. Discharged well May 22.

CASE 26.—June 3, 1923. J. J., male, aged 3 months. Strangulated left oblique inguinal hernia, 16 hours' duration. Operation, Thomas Hospital. Ether. Loop of small intestine strangulated (congenital hernia). Radical cure. Discharged same day, convalescence at home uneventful.

CASE 27.—Oct. 26, 1923. Mrs. H., aged 30. Strangulated right femoral hernia, 7 hours' duration. Operation, Salem Hospital. Novocain. Hernia, size of plum, contained knuckle of dark small intestine. Radical cure. Discharged well Nov. 6.

CASE 28.—Dec. 18, 1923. Rev. H., aged 77. Strangulated right femoral hernia, 72 hours' duration. There was abdominal distention and vomiting was fecal for over 24 hours. Patient had been bed-ridden for several weeks because of bad heart trouble. Life was despaired of two months prior to this on account of pneumonia. Operation, Anna Jacques Hospital. Novocain. Hernia, size of small orange, contained very dark small intestine. Patient did reasonably well after operation; vomiting stopped, bowels moved and abdomen became flat and soft. Later, however, respiratory symptoms developed, dyspnoea becoming marked; had to be propped up in bed. He died 11 days after operation.

CASE 29.—Dec. 19, 1923. Mr. S., aged 39. Strangulated right oblique inguinal hernia, 8 hours' duration. Operation, Homeopathic Hospital, Newburyport. Ether. Large sac filled with dark small intestine. Radical cure. Discharged well Sept. 28.

CASE 30.—Jan. 17, 1924. Mr. H., aged 28. Strangulated right oblique inguinal hernia, 5 hours' duration. Operation, Thomas Hospital. Ether. Strangulated hernia associated with undescended testicle. Radical cure. Bevan operation attempted, but cord was so short that the testicle was finally removed. Discharged well in 2 weeks.

TABLE 1  
(Ages in Sequence)

Sez	Age	Type of Hernia	Duration of Strangulation	Anesthetic	Discharged
1 Male	3 mos.	Rt. Ing.	8 hours	Ether	Well
2 "	3 "	L. "	16 "	"	"
3 "	2 years	Rt. "	4 "	"	"
4 "	3 "	"	8 "	"	"
5 "	4 "	"	14 "	"	"
6 "	18 "	"	7 "	"	"
7 "	24 "	"	6 "	"	"
8 "	26 "	"	6 "	"	"
9 "	28 "	"	6 "	"	"
10 Female	30 "	" Fem.	7 "	Novocain	"
11 Male	39 "	" Ing.	8 "	Ether	"
12 Female	40 "	" Fem.	10 "	"	"
13 Male	40 "	L. Ing.	10 "	"	"
14 Female	42 "	Rt. Fem.	9 "	Novocain	"
15 "	45 "	"	28 "	"	"
16 "	48 "	"	16 "	Ether	"
17 "	48 "	"	12 "	Novocain	"
18 "	53 "	"	7 "	Ether	"
19 Male	53 "	" Ing.	8 "	"	"
20 Female	59 "	L. "	18 "	Novocain	"
21 Male	62 "	Rt. "	8 "	Ether	"
22 Female	64 "	" Fem.	10 "	"	"
23 "	65 "	"	11 "	Novocain	"
24 Male	67 "	L. "	6 "	"	"
25 "	71 "	Rt. Ing.	9 "	"	"
26 "	77 "	"	72 "	"	"
27 "	77 "	" Fem.	48 "	"	Dead
28 "	83 "	L. Ing.	96 "	"	Well
29 Female	86 "	Rt. Fem.	70 "	"	"
30 "	90 "	"	"	"	"

TABLE 2  
(Type of Hernia)

	Strangulated	Per cent.
Inguinal..... 245	17	6.9
Femoral..... 27	13	48.2
Total..... 272	30	

## DISCUSSION OF CASES

In this series there were 18 males and 12 females; 25 were right-sided lesions and only 5 were on the left side. The most surprising feature to me is the large percentage of strangulation in the femoral type of hernia. There were only 27 femoral herniae operated on, yet 48.2 per cent. of these were strangulated. On the other hand, 245 persons were operated on for inguinal hernia and only 6.9 per cent. were strangulated. It seems to me that under these conditions operation should be strongly urged in all cases of femoral hernia unless there is special contraindication, and then the patient should be warned to notify his physician as soon as there is any sign of unusual trouble.

*Anesthesia.*—I do not think that a general anesthetic, gas oxygen or even ether, in young healthy individuals lessens the chance of recovery when the case is seen early and there is no regurgitant vomiting, distention or other contraindication. All the very sick cases here report-

ed, and most of the old people, were operated on under local anesthesia. I am sure that if some of these patients were given a general anesthetic death would have ensued.

*Points in Technique.*—The important part of the operation is the relief of the constriction sufficiently to allow the bowel to be safely replaced within the abdomen without undue trauma, or to be withdrawn for inspection and hot applications, if necessary. This procedure is more difficult in femoral than in inguinal hernia. In femoral hernia, the writer usually cuts Gimbernat's ligament with a hernia knife and frees the neck of the sac all about with the finger or small retractors before opening it. The cutting of Poupart's ligament should be avoided if possible.

I have been surprised, on several occasions, to find that even after the neck of the sac was so free that a finger could be swept entirely around it, the bowel remained strangulated, the constriction being caused by a tight and thickened sac or by fascial fibers coursing down its surface. After cutting all the tissues about the sac neck down to the peritoneum, the finger is introduced within the sac, beside the bowel, and the constricted portion is gently stretched. In my hands, this operation is simpler and safer than the inguinal operation for femoral hernia, as advocated by many operators.

Great care should be exercised in handling the damaged bowel. The use of Allis forceps or

such instruments should be avoided, as there is great danger of tearing or otherwise injuring it.

Large inguinal hernia in old people with poor structures can be repaired more thoroughly after removal of the testicle. This was done in five of the cases.

*Is resection done too frequently?*—When the sac of a strangulated hernia is opened, the constricted loop of gut appears very dark, often black as coal—a marked contrast to the surrounding normal peritoneum of the sac.

In the presence of unquestionable gangrene, there is no doubt as to the proper procedure. Radical measures should of course be instituted at once.

Are we justified, however, in resecting because the circulation does not return well or because the bowel presents a granular appearance, or because it has lost its luster? Are we justified in thinking that a hernia, even of the femoral type, that has been strangulated 36 or 48 hours, or even longer, is hopeless without resection? I do not think so.

Patient No. 10, aged 86 years, had a history of strangulation, four days in duration, with distention and fecal vomiting for over 48 hours. Her case seemed hopeless. The loop of bowel remained very dark even after the constriction was relieved. I thought it was safer to rely on the natural reparative and protective forces than to resect. To my surprise, she had a smooth convalescence. This happy experience caused me to treat the other bad cases in the same conservative way, with equally gratifying results.

It is difficult to tell exactly what happens in every case. It is easy to understand what might occur in some cases at least. There is not the danger of sudden perforation which one gets with ulcer. In this type of lesion the peritoneum is already congested and readily adheres to adjacent healthy peritoneum which could easily protect the devitalized bowel.

The fact remains that, whatever might be the cause, all the cases got well, with one exception; and I believe that this was a respiratory and not an abdominal death.

### A Case of Solitary Cyst of the Kidney

BY GEORGE GILBERT SMITH, M.D., F.A.C.S., BOSTON

THERE are two reasons for reporting this case. One has to do with the interpretation of the pyelogram; the other with the method of anesthesia.

A third but less cogent reason may be found in the comparative rarity of large solitary renal cysts. Harpster, Brown and Delcher<sup>1</sup> have recently reported two cases and in the same article have reviewed the literature on this subject. The total number reported is 95. A summary of the facts stated by them shows that although large serous cysts may occur in children, they are generally found in individuals between the ages of 30 and 60. They are found about twice as often in women as in men. Usually the cyst occupies one or the other pole of the kidney and causes no symptoms until its size becomes so great that it causes pain by pressure, or until the tumor is accidentally discovered. Hematuria was observed in less than 10 per cent. of the cases.

Several theories of the etiology of these cysts have been propounded, but none of them seems entirely adequate. The belief that they may be congenital finds support in their occasional occurrence in very young children. Kosinsky reports finding one in a child of 16 months.<sup>2</sup> Harpster states that "the pathogenesis in most cases is probably a rather intense process of interstitial nephritis associated with obliterating endarteritis; but whether this has an embryonal or later origin it is difficult to say." "The shell of the cyst is essentially formed by the capsule of the kidney. The cyst cannot be separated from the kidney substance proper."

Of recent years the treatment has consisted of partial resection of the cyst, resection of that pole of the kidney which is involved, or nephrectomy. In most of the cases nephrectomy was done. In two instances in which the cyst was resected, a fistula resulted.

The prognosis, even without operation, is good unless the cyst becomes so large that it exerts harmful pressure upon other organs. Operation is usually advised because of the uncertainty of the diagnosis, and because there is a possibility that the tumor may be malignant. There is relatively little known as to the pyelographic study of these cystic kidneys, so it may be of interest to note the findings in the following case.

Mr. F. R., a patient of Dr. E. Heath Clark of Newton Center, was referred to me by Dr. George Carroll Smith. Age, 78. Mumps in 1891. Several attacks of right renal colic in 1899-1902, but none since. He has never had pain on the left side. Urination is sometimes a little slow, and occurs once or twice at night. No history of hematuria. For several years he has been treated by Dr. G. C. Smith for obesity and bronchitis. Except for the latter, he feels perfectly well. He was referred to me because of a tumor in the upper left quadrant. This tumor had been shown to be retrocecal by inflation of the colon. Examination showed a healthy-appearing old gentleman. Reflexes normal. Pulse regular, of good quality. B. P. 145 syst. Heart not appreciably enlarged. First sound replaced by a blowing murmur. Abdomen lax. In upper left quadrant is visible a tumor, moving with respiration. It is smooth, quite movable, elastic in consistency, and about the size of a grapefruit. External genitals not remarkable. Prostate elastic and moderately enlarged. Residuum, three ounces. Total renal function: 1 c.c. phthalein in-

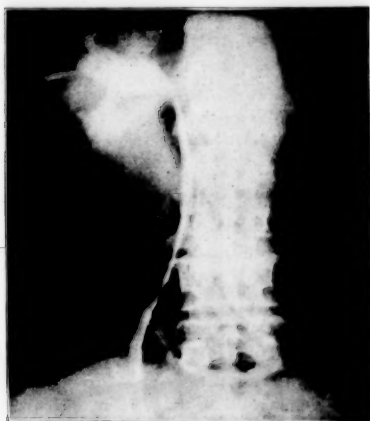


FIG. 1.—Pyelogram of cystic kidney, showing retraction of calyx similar to that frequently found with hypernephroma.



FIG. 2.—Posterior aspect of cyst of kidney. Cyst restored.

travenously, 40 per cent. in 35 minutes. Urine 1006, clear, no albumin, no sugar. Sediment: 8-15 leucocytes per field. Entered Corey Hill Hospital. Cystoscopy, January 12, 1924. Prostate only slightly enlarged intravesically. No anterior cleft. Right ureter emits jet. Left ureter catheterized easily. Clear urine drawn which shows no albumin and some large, round cells. Fifteen c.c.m. 12 per cent. sodium iodide injected into left renal pelvis. No pain. Pyelogram shown in Figure 1. Because of the definite retraction of the middle calyx, Dr. L. B. Morrison, who took the x-rays, believed the tumor to be a hypernephroma. The lack of bleeding and the elasticity of the tumor inclined me to the belief that it was cystic in character.

January 14, both ureters were catheterized and a divided function done. Twelve and one-half per cent. of dye was put out by each kidney in 15 minutes. There was no extra-catheter leakage. A diagnosis of cyst of the left kidney was made. In view of the rapidity of growth of this tumor, which Dr. G. C. Smith declared was not palpable four months previous, and because of the possibility of error in the diagnosis, operation was decided upon.

January 17, 1924. To avoid possible pulmonary and cardiac complications, local anesthesia was employed. At 6.30 a. m. the patient was given morphine gr. 1/8, hyosine gr. 1/200; at 7.30 a. m. he was given morphine gr. 1/6, hyosine gr. 1/200. He was distinctly drowsy when brought to the operating-room at 8 a. m. He was placed upon his side, and lumbar puncture done between the first and second lumbar vertebrae. About 1 c.c.m. of spinal fluid was allowed to escape, and 1.8 c.c.m. of 5 per cent. novocain-adrenalin solution (Tablet C) was injected very slowly. Anesthesia was perfect throughout the operation. Frequent readings of B. P. showed that there

was a fall from 135 mm. systolic to 78 mm. about 30 minutes after the injection. By the time the wound was closed the systolic B. P. had risen to 100 mm. There was no nausea.

Oblique left kidney incision. A very thin-walled cyst, bluish in color, was demonstrated. With the patient in lateral position the weight of the cyst had rotated the kidney forward on its axis, so that the pedicle was found running into the kidney on the side nearer the operator. The upper pole was quite adherent. The kidney could not be delivered or even rotated. The pedicle was clamped and cut. In attempting to draw the kidney through the incision, the cyst was ruptured, with the escape of clear, straw-colored fluid. The kidney was removed, pedicle tied, wound sutured about a rubber wick.

Convalescence was absolutely uneventful, the patient leaving the hospital February 11. His urine at several examinations showed no albumin.

The kidney after removal appeared rather large. The middle third, more on the posterior than on the anterior surface, was occupied by the cyst, which separated the upper pole from the lower pole very nearly completely. A narrow isthmus of renal tissue along the anterior edge of the hilum connected the two poles. The middle calyx could be seen disappearing as a long, narrow channel beneath the cyst. (Figure 2.) This explained the retraction of the middle calyx as demonstrated by the pyelogram. The capsule stripped off the renal tissue with difficulty, leaving a pebbly surface. A section cut from this showed the presence of moderate arteriosclerosis (Sias Laboratory).

#### REFERENCES

- 1 Jour. Urology, Vol. xi, No. 2, Feb., 1924, pp. 157-176.
- 2 Quoted by Rinney, Modern Urology, 1924, Vol. ii, p. 696.

## Removal of Tonsils During the Period of Acute Infection

BY CHARLES T. PORTER, M.D., BOSTON,

*Assistant Laryngologist, Massachusetts General Hospital; Assistant Surgeon, Massachusetts Charitable Eye and Ear Infirmary*

THE indications for removal of tonsils have changed greatly within the past few years, first from tonsillotomy to tonsillectomy principally in children, for simple hypertrophy in the majority of cases. Gradually, with the development of the theory of focal infection, the adult tonsil has been looked on with more and more suspicion until at the present time the age of the patient has ceased to be very much of a consideration provided we have evidence of trouble.

Recently the indications for operation have undergone another radical change and tonsils are being removed during acute exacerbations and during the acute stage of some tonsillar and peritonsillar infections.

It is the latter group that I would call attention to.

I have had fourteen cases within the past year which supplemented some experience gained while in charge of the department of Oto-Laryngology at Camp Upton, Long Island.

I will not attempt to give a detailed case report of all the cases but will briefly outline four of the more typical ones.

CASE 1. An undergraduate nurse was admitted to the hospital complaining of sore throat and difficulty in swallowing, with headache for two days. Temperature, 100. Examination showed greatly enlarged tonsils with patches on the surface, almost meeting in the mid-line. There was some swelling in the supratonsillar region, but the main thing seemed to be a protrusion of both tonsils toward the mid-line. The voice was thick and of the quinsy type.

On the following day the temperature was about the same and the appearance of the throat the same. Tonsillectomy was advised but was refused. An opening was made by dissecting up the anterior pillar at the upper pole of the tonsil, extending about two-thirds of the way down the anterior pillar. A small amount of pus was obtained, not from the supratonsillar region but from the lower part of the incision. This gave temporary relief for a few days and had to be repeated. In a week the same thing happened again, the patient in the meantime having been up and about with no temperature. This was repeated a third time and the patient

was comfortable for a week when again the tonsils began to protrude and the temperature went up. This time she agreed to a tonsillectomy, which was performed under ether, suction being used to keep the throat clear. No pus was found at the upper pole of the tonsils, but on the left side a large abscess was found extending through into the pharyngo-maxillary fossa and containing about an ounce of pus. A smaller abscess was found on the right side, also extending through into the pharyngo-maxillary fossa. On the left side in the lateral wall of the abscess the pulsation of the carotid could be plainly seen. Temperature was normal the following day and the patient was back on duty in eight days.

**CASE 2.** This was in a young girl and had been going for three days when seen by me, having been opened once without results by the family physician, the left side only being affected.

Operation (tonsillectomy) was advised as the trouble seemed to be more towards the base than the upper pole of the tonsil. This was refused and I made my usual incision for drainage under the anterior pillar and obtained a moderate amount of pus. This gave relief for two days and then the abscess filled up again. This time the patient consented to go to the hospital and have the tonsils out.

A large abscess was found extending through the constrictor muscle and the large vessels could be felt distinctly. The case made an uneventful recovery.

**CASE 3.** Boy, 12 years old. Sore throat one week previous to my seeing him, with marked swelling of glands on right side of neck. Enucleation advised, but as patient seemed better the next morning and the parents did not like to have the child go to the hospital, operation was postponed. Tonsils were finally removed at home ten days after first seen. Tonsils were small and inflamed, no pus found in them, although there was swelling behind posterior pillar on the right side, which was incised; no improvement. Neck was opened outside five days later and a large amount of pus was evacuated with immediate improvement. If this case had been operated at first I feel sure that a neck full of pus, and attendant danger, could have been avoided.

**CASE 4.** A patient with multiple acute infectious arthritis with joint change already present from one of the basilar types of peritonsillar abscess. This was incised with partial success, but filled up again in three or four days and the process repeated. About ten days later, after all throat symptoms with the exception of swelling of the lower part of the tonsils had subsided, the patient came down with an attack of acute infectious arthritis. About six weeks later the tonsils were removed and the remains

of an abscess found at the base of the left tonsil, extending into the pharyngo-maxillary fossa. Complete recovery followed.

These four cases are good examples of the fourteen I have operated upon, and in none of the fourteen has there been any complication or evidence of a liberation of infection into the system by the opening up of new avenues—a reason against operation so often heard in these cases.

One point which I think very important in these cases is the difference between the supratonsillar and the basal types of peritonsillar abscess, and the danger of the latter. In the former there is a very slight danger of general infection and jugular thrombosis with general septicemia, and in the latter very grave danger of this complication.

I do not think it so important to enucleate the tonsils in the supratonsillar variety, although by so doing the patient gets well much sooner and does not have the subsequent tonsillectomy to look forward to. This is easily drained by simple incision and is not likely to lead to serious complication.

In the basal abscess, with the protruding tonsil and little or no swelling in the region of the palate, I think that enucleation is much the safer and surer method of procedure, for the depth of the pus from the surface is so great that it is not easy to drain or to keep drained, and if we wait for it to point we may have a jugular thrombosis and general septicemia on our hands. In operating these cases I have them in the sitting position with the etherizer behind the patient and an assistant constantly using the suction tube. It is well to evacuate the abscess and take care of the pus, if possible, before entirely enucleating the tonsil.

The third type of case is different from the peritonsillar, but it is, I think, just as important that it should be operated upon, and is largely confined to children.

This is the case in which, during an attack of follicular tonsillitis, the cervical glands become swollen and finally the whole side of the neck indurated.

These cases, in my opinion, should be operated either at once or at least as soon as the first acute symptoms have subsided. Case 4 is a good example of this class of infections.

#### CONCLUSIONS

1. There are two general types of peritonsillar abscess: (a) the supratonsillar, which is relatively safe and easily evacuated, and (b) the basilar type, easily diagnosed by enlargement or pushing of the whole tonsil toward the midline and usually with some general induration noticeable on the side of the neck, and with slight reaction in the supratonsillar region. It is frequently possible, after some days have elapsed, to express free pus from the lower follicles on the affected side.

2. That the basilar type is very hard to drain early in the disease by anything short of enucleation and that waiting for it to point is dangerous to the life of the patient.

3. That tonsillectomy, if carefully done, is not attended with grave danger to the patient. No postoperative hemorrhage or other complications in any of these cases.

4. That time of election for operation is as soon as diagnosis is made.

5. That with marked glandular swelling following acute tonsillitis in children the tonsils should be removed at once.

6. Prediction that it will ultimately be considered a proper surgical procedure to remove tonsils during acute attack.

## Transactions of the New England Urological Association

MEETING OF NOVEMBER 15, 1923

Dr. Cunningham in the chair.

The following officers were elected:

President—Dr. John H. Cunningham.

Secretary and Treasurer—Dr. E. Granville Crabtree.

Executive Committee:

Massachusetts—Dr. J. D. Barney, Dr.

H. J. Perry.

Rhode Island—Dr. Jones.

Connecticut—Dr. Rowley.

Maine—Dr. Alfred Mitchell.

Vermont—Dr. Townsend.

Owing to the fact that the Clinical Association of G. U. Surgeons was meeting in Boston, the society was fortunate enough to have among its guests the following members of the organization:

Drs. Gardner, Beer, Hagner, Keyes, Braasch, Kretschmer, and Caulk.

### PRESENTATION OF CASES

DR. EDWARD L. MERRITT, Fall River: Two cases of uremia, caused by ureteral and renal calculi, coming into the hospital in a short period of two weeks, seemed interesting enough to report to this society. One case resulted fatally, the other recovered. The first case was a man, a widower, 64 years of age. His history is unimportant other than the fact that he had had pain for forty years in the right kidney region and for the last few years had also had pain in the left kidney region. Some years ago he had tuberculosis. He had been treated in a sanatorium and discharged recovered. He also gave a history of having passed gravel. He was admitted to the hospital in a state of advanced uremia, and following admission his condition became worse. I cystoscoped him and found only about a teaspoonful of dark, thick urine in the bladder. There was no function on either side. On the left side of his bladder there was a mass of ulcerations from the trigone up and around the ureter. This ureter was catheterized, and just about an inch inside of the ureteral orifice an obstruction—probably a stone—was encountered, but after some manipu-

lation the catheter went by, and pus in a worm-like fashion came out through and around the catheter. On the other side there was no function at all to be seen and even following catheterization of that ureter there was no function. It was believed that if we could get a few catheters past the stone on the left side and allow drainage, we might relieve his uremic condition so that he could be operated upon at a later date. Two catheters were finally inserted past the stone, and following x-ray examination the patient was put back in bed with the catheters in place. At this time his non-protein nitrogen was 89.6 mgm. After a few days' drainage through the two catheters his non-protein nitrogen dropped to 59.5 mgm., and his general condition improved markedly. It was thought best not to leave the catheters in any longer, and eight c.c. of warm sterile liquid petrolatum was injected through the catheters, and the catheters withdrawn.

The next day I cystoscoped him again and found a stone in the bladder as large as a lima bean, and this was removed with a snare through the cystoscope. At this cystoscopic examination there was some function on the right side. The x-ray report showed a stone in the left lower ureter and a stone in the pelvis of the right kidney evidently acting as a valve. At this time the stone evidently had moved, allowing some function on that side. The comparative renal function test showed phthalein output 12 minutes on the right and 16 minutes on the left. The patient was put back to bed, and by the following day his non-protein nitrogen had dropped to 48.6 mgm. Dr. Truesdale operated on him, doing a right pyelotomy and removed a stone from the pelvis of the kidney. His convalescence was uneventful.

The next case, a married woman of 50, was brought into the hospital in an extreme uremic condition. Her non-protein nitrogen was 213 mgm. When you figure 35 mgm. to 45 mgm. as normal, you see what her condition was. Cystoscopic examination was done, and on the right side there was very slight function. On the left side there was no function whatever. Both ureters were catheterized and on the right side a stone was encountered just outside of





the bladder, an inch and a half from the mouth of the ureter; on the left side no urine was secured at all. X-ray examination showed a shadow at the lower end of the right ureter and also a shadow in the vicinity of the left kidney. The patient was put back to bed, fluids forced and saline given intravenously, but her condition became worse. Her creatin<sup>in</sup>, which had been 6.9, was very high, and indicated a fatal termination in a few days. It now jumped still higher, to 9.6. Her non-protein nitrogen jumped to 333 mgm., the highest I have ever seen.

A second cystoscopic examination was made, hoping that we might possibly pull the stone down from the right ureter. No oil was injected in this case because of her precarious condition, and because of the fact that the right kidney was the only one functioning. I was unsuccessful in getting the stone, and it was finally decided as a last resort that she be oper-

ated upon. Dr. Truesdale operated, doing a right ureterotomy, recovering the stone, which had been wedged tightly in the ureter. Following operation she was given saline intravenously and rectal drip, but she died 36 hours later. We were fortunate to get the specimens after operation. The left side showed a kidney which had been at some time full of multiple abscesses, but no active abscesses at this time. We don't know what could have caused the shadow, because there were no stones. Whether or not it was a calcified area we don't know. The other kidney had a small area near the lower pole which was the only part of the kidney doing any work at all. (Showing specimens.)

DR. W. F. BRAASCH, Rochester, Minn.: Calculous anuria is a very interesting subject and one which requires a whole lot of care in its treatment. In my experience, as a rule, where



there is one kidney functionless and one is occluded by a stone, the quicker you can get in and by operative procedure get it out, the better chance you have for the recovery of the patient. There are many possibilities for trouble in manipulation,—failure of the stone to pass, following the first operation; that you are running a chance in so doing, and the quicker you can get it out by wide incision, affording rapid drainage for the kidney, the better. In this case it was done so beautifully and the result was so good; but I remember two cases I tried to treat in this way, but I felt afterwards that as a result of my manipulation failing, the patient died—I felt that if we operated at once, the patient might have got well. So I feel strongly if the stone is large, it pays to go in rather than to manipulate, though in a small stone of recent origin it might be tried first by manipulation.

A very peculiar thing—I don't think it is possible for one good kidney to be present and the stone in the other kidney to cause anuria. Where that is present, both kidneys are involved. I don't take any stock in reflex anuria. It always means bilateral disease. So you may be certain that where the stone is found in the ureter, that is the only kidney the patient has, and the patient must be brought back to normal to have life sustained.

DR. P. E. TRUESDALE, Fall River: I agree entirely with Dr. Braasch on the need for operating upon these cases early. I believe that the first patient was saved by Dr. Merritt's ingenuity in removing the obstruction in the left ureter; and the second case was lost by watchful waiting, at home. This patient was uremic when she was brought into the hospital. However, it was hoped that her condition could be

improved. If we had adopted the plan urged by Dr. Braasch, we might have given her a better chance, though you will see from these specimens that there is only a small amount of renal parenchyma in the right kidney, and none in left kidney.

DR. E. L. KEYES, New York: An interesting observation in the diagnosis of anuria was made for me on one occasion by a pathologist. The patient in question had passed no urine for several days, and the catheter found not a drop of urine in the bladder. The pathologist stated that he could not believe that both kidneys could be thus simultaneously occluded causing a total absence of urine from the bladder during an attack of anuria, but indicated that the patient had but one functioning kidney before the onset of this attack. The patient died and autopsy revealed but one kidney.

DR. JOHN R. CAULK, St. Louis: The reason I want to say a word is because I have just been through a series of calculous anuria cases. It is a fascinating condition because they usually have the same story. The serious phase is that the patients are not uremic. There are cases that have gone 26 days with complete suppression without symptoms of uremia. Dr. Frank of Louisville reported a case that had anuria for that length of time. And I have looked up cases, and they were non-uremic until after the fourth day. When the patient has not passed urine, you must not temporize but be active and relieve obstruction; and my experience is that we have been able to relieve the obstruction in all of them with the ureteral catheter; but if they do not become relieved in that way, they should be removed surgically. But the one serious phase of calculous anuria is that they are symptomless; they are comfortable and happy, and they pass from this happy state to uremia almost instantly, and you can't wait for them.

DR. FRANCIS HAGNER, Washington: I am very much interested in these cases. The one thing that is interesting is to see how long a patient can live with one kidney. I have had a patient with solitary kidney in which operation was refused, and that woman went for a year, and she was finally operated upon and the kidney opened. It was an enormously large kidney, and there was no portion of that kidney that was a centimeter in thickness. She lived for a few days and died of ileus. At autopsy there was no kidney on the opposite side. There is a difference in a kidney that is completely stopped and a kidney that is leaking a little bit. I think the picture you see in bichloride poisoning is the same, and in those cases they would go along for a considerable period of time; they would have no symptoms of uremia, no vomiting, no headache; and it looks as if, when the kidney is entirely put out of commis-

sion, that they don't get uremia. Furthermore, we had a patient who had been hit by radium, and she passed not over four ounces of urine in 28 days. That is absolutely accurate. And at the time of the woman's death the pelvis was just as if melted lead had been poured into the pelvis. She refused operation. The kidneys were small, and that woman had no symptoms of uremia at all. She had no vomiting—just got weaker and weaker and died, but she never presented any of the typical symptoms of uremia.

DR. HERBERT H. HOWARD, Boston: I have here something of a curiosity, rather than a specimen which is in any way instructive.

This specimen was from a man operated upon by me at the City Hospital for right lumbar pain associated with a slight amount of frequency.

The x-ray showed a perfectly definite shadow of a stone in the right kidney.

On delivering the kidney up into the wound it was very much adherent to the parietal peritoneum and thus stone was found in the pelvis. Much to my surprise, after the operation was completed and the stone examined, a piece of wood resembling a tooth-pick was found forming the nidus of the stone. Dr. Mallory finally sent in a report stating that it was wood resembling a tooth-pick.

It seems that this man had a habit of chewing toothpicks, not only after meals but between meals, and he thinks that he undoubtedly swallowed it; and my belief is that it sloughed through the large bowel into the pelvis of the kidney, and this accounts for the kidney being so adherent to the parietal peritoneum.

DR. J. H. CUNNINGHAM, Boston: This brings up an interesting subject. I would like to relate a thing that this tooth-pick case suggests,—an occurrence which took place while I was a house-surgeon at the City Hospital. A lady, of the better type than we were in the habit of treating, came into the accident room. After being assured as to whether I was a doctor or not, she told me her troubles, and they were briefly these,—that she had stuck a needle in her forearm and she thought the needle was in the forearm, and she bared her arm and showed the point of entry which might have been the needle, and I told her to come back the next day and be x-rayed. She said, "Doctor, since you are a doctor, at this time I am not concerned about myself, but I want to know whether a needle moves about in the body." I was non-committal on this and evaded the question, but she was insistent, and I wanted to know why she asked; and she said, "I am not concerned with myself but want to know whether a needle moves about because I am nursing a child and am afraid the baby may swallow the needle."

DR. G. O. CLARK, Boston: A missing link—some six or seven years ago I was called to operate at the Medfield Hospital on a condition which was called cancer of the ureter, in an elderly woman probably 60-odd. It didn't occur to me that she had a cancer of the ureter. I thought she had an appendix abscess. I operated and found that she had an appendix abscess and the appendix lay in the midst of an abscess cavity. Presently, in digging around I punctured my glove and found a common pin. I have no reason to see why the patient hadn't swallowed the pin and that it had unquestionably perforated the wall of the cecum and worked backwards, and there are the remains of it (showing). I don't see why it isn't perfectly possible for the foreign body to pass through the wall of the cecum, and I don't see why the tooth-pick didn't get through the cecum into the pelvis of the kidney.

#### THE VALUE OF THE CAUTERY PUNCH OPERATION FOR CONTRACTURE OF THE VESICAL NECK

BY DR. JOHN R. CAULK, ST. LOUIS

AN audience so well informed in the development of prostatic surgery needs no rehearsal of the ordinary phases of prostatism. The tendency has been to center attention to the large obstructions and to devise procedures for their correction designed to insure proper functional result and to lessen surgical mortality, but a consideration of the lesser degree obstructions, the so-called contractures, has until recent years been but feebly discussed. Many years ago Dr. Kyes called attention to this important group of vesical neck deformities, but the profession was rather lethargic in heeding his admonition. Later Young, Lowsley, Randall, and others, stimulated interest in the so-called bar obstructions. It is this general class that I wish to discuss with you tonight. I feel confident that even the expert urologist of the present day is misinterpreting many such involvements. I know I have overlooked definite pathological conditions of the internal orifice of the bladder on innumerable occasions before concentrating my attention so keenly upon it. With definite symptoms of prostatism, associated with a large rectal prostate, residual urine and large intravesical lobes, by cystoscopic examination one is satisfied as to the cause of the symptoms; but should such symptoms occur in an individual whose prostate is normal in size, or but slightly enlarged, and the cystoscope fails to show a very tight contracted neck, or definite lobes, one is prone to assume that local and palliative measures, such as dilations, instillations, prostatic massage, etc., are indicated. Early contractures may be temporarily benefited, but the results are always transitory since the condition is uniformly progressive. Having resisted such ther-

apy, these patients are sooner or later relegated to open surgery, either suprapubic or perineal section—the operator being content to remove a section of tissue from the internal orifice either with the knife or by the cautery, the latter having its representative the Chetwood operation. There are but few surgeons today who do not adopt these measures. Intra-urethral operative technique is employed in the hands of few.

I shall, therefore, attempt to convince you that such measures are not necessary and that the Caution Punch Operation, which I described in 1920, is as capable of producing a cure as any of the open methods, without subjecting the patient to the same amount of surgical hazard and economic loss. In order to do this, we must thoroughly understand: 1. The exact interpretation of the type of orifice. 2. You must be shown that the instrument is easy of manipulation and without danger in carrying out the technique. 3. The operation must minimize hemorrhage, infection, slough, incontinence, contracture from burning, cauterization of the urethra, with resultant stricture, and other serious complications.

#### INTERPRETATION OF THE ORIFICE

We have considered all of these lesser obstructions as contractures and have divided them into Bar Type and Collar Type and have further subdivided the collar orifice into four classes:

1. Slight annular thickening around the internal orifice, which does not allow the orifice and bladder wall to flush.
2. The second degree is somewhat more pronounced and frequently productive of shallow clefts, particularly in the upper segment.
3. The third degree has much more pronounced intravesical bulging associated with clefts and lobules and is a border-line type between major and minor surgery, requiring the most scrupulous cystoscopic differentiation.
4. The fourth degree comprises the dense scleroses, usually termed "true contractures," the type which has been so difficult of correction and prone to recurrence. With the spasticity and tension which accompany these contractures one may be entirely misled as to the exact nature of the involvement. Many such obstructions, both by rectal examination and cystoscopic appearance, at first create the impression of being only suitable for open surgery, edema and inflammatory infiltrate upon the sclerotic background being chiefly responsible for the size.

Under drainage, rest, and relief of tension, the whole configuration becomes rapidly transformed. All prostatectomists are familiar with such a picture between the two stages of a prostatectomy. Indeed, this condition has been given the name of "phantom prostate" by one observer.

The cutting of such an orifice with the punch, if it be capable of grasping it, and removing sufficient tissue to release tension and spasticity, will show as its result the most rapid and remarkable withering in the size of the organ.

In these border-line cases, it is often difficult to assert that the punch will be effective, but owing to its technical simplicity and freedom from serious complications we have had no hesitancy in suggesting it, and then if the result is unsatisfactory the open operation can be employed.

Another important group of cases falling in the category of collar obstructions, and which has been frequently observed in our series, has been the very small rectal prostate associated with high residual urines, flabby bladders, with little cystoscopic evidence of an obstruction—a picture frequently simulating a neurogenic type of bladder.

Careful cystoscopic study will show thickening and pallor around the sphincter margin. With this group of cases, as well as with any type of small neck obstruction, the straight endoscopic tube is a most valuable adjunct in the diagnosis. In every instance it has to be markedly depressed at its eyepiece to override the obstruction, and it can be felt to suddenly drop into the bladder.

We have operated on a number of patients having these different types of orifices, who had been advised that local treatment would be sufficient; or in the large obstructions, that open operation was the only possible remedy. Two patients were operated on by the punch, who had come from important clinics with suprapubic openings done preparatory to prostatic enucleation. Both patients were in such serious condition that the second stage was not carried out. One of these patients, who had drainage suprapubically for six months, was found to have a small collar obstruction with practically no rectal enlargement. The fistula closed almost immediately after the removal of a large section from the median portion of his orifice with the punch, whereas he had failed to close under dilatations and indwelling catheter. This patient was done nearly two years ago and has never had the slightest return of urinary obstruction.

The other patient, an elderly gentleman, had more orifice obstruction and had drained nine months suprapubically. I operated on him three times and removed nine pieces of tissue from different parts of his orifice, following which his fistula closed. He voided a perfect stream, but carried 5 oz. of residual urine. Cystoscope still showed a small lobule above, which we were planning to remove. Patient went for a trip and contracted pneumonia and died. We were fortunate in securing his bladder, which showed that the whole sphincteric margin was smooth and soft, showing no sign of contraction or scar, with small lobule of tissue remaining at one

o'clock, which could have been easily removed at another operation.

In this series of 150 cases, there have been 40 per cent. bars; 34 per cent. small collar obstructions; 15 per cent. tight contracted necks; 4 per cent. lateral lobules; 7 per cent. cancer. In other words, there are almost 60 per cent. obstructions of the collar type. The frequency of this whole class of obstruction seems in our experience to be progressively increasing. In our first analysis of 494 cases of prostatic obstruction there were 97 contractures, or about 20 per cent. We have found in the last few years that about 50 per cent. of all obstructions fall in this category and are amenable to minor procedures. This means, of course, that since we have interested ourselves particularly in these obstructions, and have had patience to play along with many cases and make repeated attempts at completely removing the obstruction, we have been able to cure many patients on whom we had previously done open operations.

This one feature of such surgery has not been appreciated. The mere fact that one punch does not cure the individual does not signify the instrument cannot produce a cure, but should stimulate us in many instances to repeat the procedure once, or even oftener, depending upon the progress made. I, of course, entirely understand such a method is entirely inappropriate for any gross obstructions. There have been two operations on eight patients, three on four patients, four operations on one, and five on another. In other words, 10 per cent. of the patients have had repeated operations in order to get a result. This is not for recurrence, but design. Another reason for the increased percentage is that many patients are sent for the punch operation.

In a previous paper, which I expect will be published in this month's *Journal of Urology*, my Associate, Dr. Sanford, and I, carefully analyzed the results of 100 operations on different types of lesser obstructions operated upon by the punch. In this analysis we have taken up a complete statistical study of all the various phases of symptoms and diagnostic findings before and after operations.

We have further analyzed 50 recent cases which have occurred since this report and find that the analysis is identical in almost every respect to the previous report.

Diagnostic aids which would serve to differentiate such obstructions from the gross are:

The size of the prostate by rectal examination and cystoscopic appearances of the orifice. The ages of the patients are practically identical, the majority occurring between 60 and 75. There is one thing that is interesting and helpful,—that 23 patients out of the 150 were under 50 years of age, a rather high per cent. of youngsters for large obstructions. Far more important is the fact that 8 of these patients were between 80 and 90. They were all extremely

bad surgical risks, the majority suffering with pyelonephritis and rather high-grade uremias. I feel confident that if major surgery had been done on any one of these individuals rather high mortality would have ensued. By means of this operation there was not the slightest reaction in any of the individuals and no death. If the operation would serve no other purpose, its adaptability to this type patient would seem to make it worth while. The symptoms are identical to the large involvements; frequency, difficulty, pain, urgency and the like occurred in practically the same proportion. Twenty per cent. of the patients had incontinence of urine. There was complete retention of urine in 9 per cent. on admission, but about 15 per cent. had given history of retention of urine.

There seems to be an impression among surgeons that patients with acute retention should always be subjected to open surgery, since a lesion productive of such a condition must be of sufficient magnitude to require major surgery. This, of course, needs no explanation to members of this association.

Chills, fever, and uremia were present in about 20 per cent. each. Eight patients of this series came in with suprapubic fistula. These were all closed by means of the punch in from 1 to 5 operations. There were 4 patients who had previous operations without the slightest benefit; 3 of these had been perineal prostatectomies and one suprapubic. All had high residual urines; all were uremic. They were all cured. One of these patients, on whom a perineal operation had been done ten years previously, was exceedingly uremic, carrying 1 quart of residual urine. His obstruction was the largest which has been removed by the punch. Patient was being prepared for prostatectomy, but after many weeks of drainage with catheter he failed to show the slightest improvement and constantly carried blood nitrogen of over 100. He was operated on five times in several months. Twelve pieces of tissue were removed; at the end of this time emptied his bladder down to 1 oz. and gradually regained his health. He lived for nearly two years with perfect urinary function and died of a pulmonary condition.

The 20 per cent. of patients who came in with incontinence were practically all of the paradoxical type and the cure in this condition has been uniformly good. In other words, symptoms similar to age gives no suggestion as to the nature of the obstruction, with the exception of the percentage of patients below 50 years of age.

In this group of young men we have a very suitable place for such therapy. They had all been treated locally by dilations and topical applications and without improvement, except for slight temporary benefit. They have, with one exception, given very gratifying results with the removal of their obstruction through the urethra,—the one exception being a young

man with a definite bar and nothing else, who still retains his frequency, burning and residual urine; his prostate, vesicles and nervous system normal. He presents a puzzle. We should hesitate in suggesting open surgery to this group.

*Prostate:* The prostate was either not enlarged, or only slightly so, by rectal examination, in 73 per cent. of the patients. Twelve per cent. showed considerable rectal enlargement; the remaining 15 per cent. were moderate. The 12 per cent. showing gross enlargements were done early in the study of the punch on individuals who either solicited its use, or those on whom it was tried with a thorough appreciation of impropriety of its usage and to satiate an injudicious curiosity.

*Urine:* The urine was infected in 58 per cent. of the patients. Residual urine was present in all but 10 cases and ranged from 2 ounces to 1500 c.c. Sixty-two of the patients had over 4 oz., 16 over 1 pint, and 13 had complete retention.

There seems to be a decided misunderstanding as to the relationship of residual urine to operability. Some of the most irritable cases—indeed, this is the rule—had either no residual urine, or but a small amount. I have heard the expression so many times from physicians, "This patient can need no surgery because he has no residual urine." This, of course, is an erroneous conception. We operate on patients with such conditions, not only to cure a residual urine and relieve back pressure symptoms upon the upper tract, but, as in other pathological conditions,—such as appendicitis or gall-bladder disease, which are not acutely dangerous to the life of the individual,—to remove the cause and restore the patient to a comfortable state, and we must always consider the patient; certainly the man who is troubled with incessant, painful urination, due to obstructed internal vesical orifice, needs relief regardless of whether or not there is residual urine present.

This class of obstruction emphasizes the great importance of a cystoscopic examination before any type of treatment is instituted. I am convinced that with thorough cystoscopic study many of these cases could be spared major surgery. I do not feel that any urologist should operate in the presence of symptoms and residual urine, regardless of the palpable findings by rectal examination.

#### TECHNIQUE

The technique of this operation is exceedingly simple. In fact, we regard it with no more seriousness than a cystoscopic examination, and its execution entails no more trouble or time. I had thought that most urologists were familiar with the technical details, but I have been advised and have also observed the contrary. For this reason a rather detailed description of the technique will be given.

After cocaineization of the urethra, as for any instrumentation, the sheath with its obturator is passed into the bladder. Obturator is withdrawn and urine is evacuated. The instrument is then pulled forward until the internal orifice engages in the slot. The instrument is pressed firmly downward by the left hand, at the same time drawn forward. To accomplish this, press downward with little finger and upward with thumb; at the same time the elbow is firmly supported on the knee so that the instrument, if it once grasps the orifice, bears very firmly downward, and is fixed without the slightest motion from then until completion of the operation. Evacuation of the contents of the tube is then done with the aspirator and cotton pledgets. The light is reflected and the orifice identified, and classified. We are usually able to tell the type of orifice, whether glandular or sclerotic. Infiltration with 1 per cent. novocaine is begun, the needle hugging the lower part of the shaft of the instrument so as to infiltrate below the line of burn. This field is then dried and the orifice is touched with the rod of the evacuator, and if there is no sensation elicited, the orifice is then ready for burning. The cautery blade is then passed through the sheath until it engages the obstruction. In the meantime, the left hand, which is firmly holding the orifice within the slot of the instrument, is never budged from its original grasp. This is the most important step in the operative technique. Having applied the cautery blade to the obstruction, an assistant then turns the current to its maximum, which has, of course, been previously tested, and the operator by a rotary motion with forward pressure burns through the obstruction. This requires very firm pressure by the right hand. Indeed, sometimes it requires a fair amount of strength. This almost invariably takes 4 seconds, and should not take more. The instrument is then removed and the operation is completed. The shaft of the instrument seldom gets warm.

We have learned from experience that one good bite is sufficient for the average individual. Most of our recent operations have removed but one piece. If it is of sufficient size, the sphincter retracts so that it is hard to get another section, unless, of course, one is dealing with lobular protrusions. I have removed one piece in 107 patients, two or more pieces in 43 patients. In one individual 15 pieces were removed; in another, 16. This, of course, was done at repeated sessions and for lobular ingrowths at different parts of the orifice. With two exceptions there has been not the slightest appreciation of pain during the burning.

Infiltration of the orifice is sufficient to completely deaden sensation. This cannot be done without infiltration; that is, ordinary urethral cocaineization is entirely ineffective. Sacral anaesthesia, which is ideal for manipulations around the internal sphincter, is unsatisfactory

for this operation since it so relaxes the orifice that the proper grasp cannot be made and this, as we have stated above, is the one important thing in this operation; that is, the sphincter must be firmly grasped and held by the pronounced pressure during the whole of the operation and never relaxed.

The current for this instrument must be alternating. I have done 105 of these operations at the office, where there is an alternating current, and 45 at hospitals where the current has in many instances been direct. There has never been the slightest trouble in the operations done with the alternating current, but I have had several disagreeable circumstances with the direct current. The reason for this I cannot explain, nor can I have it explained to me by expert electricians. I have been informed that in such transformations about 33 per cent. of the current is lost. I, furthermore, know that the current is much more liable to short. At any rate, the heat which is obtained from the direct current is never rapid, and of sufficient intensity to completely encircle the platinum blade. In the office instrument it is instantaneous and there has never been the slightest hang, but the instrument goes through with a click, whereas, in the other operations I have several times been unable to completely burn through the bladder side of the mucous membrane and have had to tear it. For this to be done properly, it must immediately go through within four seconds with a snap that you can always appreciate.

I have used my original blade without change or repair since January, 1920, and have done 105 operations with it, so it is convincing proof that the instrument is durable if properly cared for. In case the obstruction is in parts of the orifice other than the median portion, the position of the instrument depends upon the location of the lobule; but the technical point of firmly fixing this obstruction in the grasp is the same.

**Post-Operative Care:** When the operation is over, the patient is allowed to get up and dress.

**Retention Catheter:** Retention catheter is placed under the following conditions: 1. In individuals with high residuals who need drainage; 2. Patients with marked spasticity with retention of urine.

This group of patients has amounted to 33 per cent. of the whole number. The smaller obstructions, bars and collars, have seldom required the retained catheter. The duration of the catheter is of course variable and depends upon the individual case. Except for the patients with large obstructions and high residuals, who need repeated operations and drainage for uremia, the catheter is seldom left in but two or three days. Then the patient is tested. It is seldom that it has to be reinserted. In the 13 cases of complete retention but three have had reinsertion. In fact, the spastic orifice from

contracture has received the promptest relief.

The patient is usually sent to the hospital and the average stay is from two to three days. Many patients have gone to their homes and kept on with business without having the slightest trouble. This, of course, is not wise. The complicated cases needing drainage, of course, have to remain until the obstruction is entirely relieved.

#### PAIN

These operations are remarkably free from pain. It has been exceedingly rare to administer any sedative. One would have the impression that the burn at the bladder neck would be more painful than a cut, but without exaggeration there has not been the slightest appreciation of discomfort in the majority of these patients. The pain produced in a cutting operation is due to tenesmus from clots.

**Hemorrhage:** I have had no hemorrhage occurring in a patient operated upon at the office with alternating current. At the hospital, one patient operated upon with transformed direct current was torn badly because of the fact that the instrument would not go home, and he had a lively hemorrhage for several days and is the only patient on whom we have had any large clots. There is not a single other patient who caused the slightest concern about hemorrhage. A little staining of the urine or a slight beginning or terminal bleeding is the rule. The majority of them ceased entirely in 2 days. A few had mild terminal staining from 7 to 14 days. I have seen a few last as long as four weeks. There has been no active secondary bleeding; two patients had a slight bleeding as late as a month after operation. In other words, no evidence of deep sloughing or infection. In fact, hemorrhage has amounted to nothing in all the cases, except the one in which there was a mechanical defect.

We have never had to pass catheters for clots, or to use an evacuator.

**Sloughs:** No extensive sloughing has followed any of the operations. We have looked for it very carefully and have seen nothing but small shreds in the urine, which every patient passes. This is easy to see. The burning is so superficial and so rapid that one should not anticipate extensive sloughing. With four seconds of heat taken up by the tissue fluids, anticipation of sloughing is unwarranted. We have studied the material removed from practically every patient and there has always been a complete preservation of the tissue, so that one could determine its exact histological nature. In many instances the mucous membrane is intact, except in the most superficial cells, as you can see from the lantern slides. It is, therefore, rational to assume that if the tissue removed in the slot of the instrument shows such a remarkable preservation, the tissue on the other side which is left in the blad-

der should be equally well preserved and should not be subjected to sloughing or late scarring.

**Incontinence:** There has never been the slightest incontinence following this operation, and I need not explain this to you, for there is naturally no excuse for it. One can completely sever a sphincter in one segment and have it heal with perfect function, and I dare say the sphincter is never completely sectioned. Furthermore, we are accustomed to paying but little attention to the sphincter in our suprapubic operations where at times trauma is, indeed, quite extensive. We have, on the contrary, cured all but one of these patients of their incontinence, this incontinence being of the paradoxical type.

**Infection:** Absorption with reaction following this operation has been rare. In only 12 patients was there a rise in temperature. In 8 of these there had been previous chills and fever from pyelonephritis. Kindly remember that fifty-eight per cent. of all the patients had infected urine before operation, and I feel that the cautery operation has minimized infection in these individuals.

**Epididymitis:** Epididymitis has occurred in 8 per cent. of the patients; acute in only two instances. The rest were mild and more or less trivial. Two occurred rather late, after two weeks.

**Results:** There was immediate improvement in the stream; that is, within a week, in 66 2/3 per cent. of all these patients. The remainder showed improvement at intervals from 2 to 8 weeks. Several of our best results have had considerable difficulty and frequency and irritation, lasting as long as 7 to 8 weeks. In other words, one should not become discouraged if improvement is not immediate. It takes some time for this secondary edema from the burn to subside in a number of instances. The ultimate result bears an important relationship to the type of post-operative treatment. It is important to keep the urethra free from instrumentation. It has been our habit to not put any instrument in the urethra for at least 4 or 5 weeks after operation. The average patient is kept on urinary antiseptics and watched carefully, told to drink water freely and keep the urine bland. In cases of irritability he is given the usual sedatives and heat. If the urine is dirty and the irritability is pronounced, a mild injection of argyrol or collene, with urethral syringe, is given through the urethra. No irrigation at this time. In this way healing is much quicker, complications fewer.

The majority of patients get along without any treatment and many have clear urine from the first. Occasionally the patient's symptoms are magnified after the operation. This may last as long as seven or eight weeks. They are all ambulatory and attending to their work after the first few days, except the ones who are hos-

pitalized for upper urinary tract conditions or other complications.

The average individual goes to a cure without any instrumentation or any urethral treatment. In case of persistent irritability, hot irrigations under low pressure are serviceable. Occasionally accompanying the secondary edema, there is considerable reaction, and patients who have been comfortable and voiding well begin to have frequency, burning and difficulty. The passage of a catheter will usually settle the storm. There is always retention in these reactions. Such cases are catheterized until the reaction is over and urination is free. This may take from one day to several weeks.

**Late Results:** We have compared the symptoms before and after operations in the different types of obstruction. In the bar cases the average night frequency before operation was four times; after operation, once. Before operation all but 12 patients got up at night. Since operation 53 per cent. of the patients did not get up at night, whereas their average beforehand was three times. In the collar obstruction and those with lobules before operation, night frequency was four times, afterwards once. Sixty per cent. have been entirely cured of night frequency. In the severe contractures night frequency was six times, afterward once. Before operation all were required to get up at night. After operation 40 per cent. were entirely cured. These contractures have given surprisingly good results. Only one patient of this group received no benefit. There have been two recurrences; one within six months, another within a year. In other words, about 70 per cent. have remained entirely free of symptoms from one to four years.

**Residual Urine:** The comparison of the residual urine before and after operation is as follows:

**Bars:** Beforehand was 4 ounces, afterward  $\frac{1}{2}$  ounce.

**Collars:** Average beforehand was 11, after operation  $\frac{1}{2}$  ounce; 88 per cent. of these two classes were entirely cured of residual urine.

**Contractures:** Average of residual urine before operation, 5 ounces; less than  $\frac{1}{2}$  ounce after operation; 28 per cent. of these patients had no residual before operation; 80 per cent. of these who had residual urine were entirely cured of it.

**Imperfect Results:** I have classified these into (1) Those individuals who received not the slightest benefit from the operation; (2) those who received partial relief; and (3) those who had a good immediate result, but showed evidence of return of previous trouble.

**Group 1.** No improvement—6 patients, or 4 per cent. One a post-apoplectic with one quart of residual urine; neurogenic bladder, plus bar. Another a contracted bladder, contracted neck, general incrustrated cystitis. Third

patient a rather large collar with lobule, diverticulum, severe cystitis, pyelonephritis; bad surgical risk. Two operations with punch; not the slightest relief, although I thought I had removed sufficient tissue to effect a cure. Two other patients with rather large roundings with lobules—both show concave in region of the median portion. Both have obstructions laterally. Sixth case, sclerotic bar; typical punch case—no result.

**Group 2. Partial relief.** There were 8 patients, or 5.5 per cent. All of these patients have been considerably improved. These were all done for larger type of collar obstructions, with one exception. They all need repeated operations and, I believe, can be cured. Two of the patients in this class consider themselves perfectly well. Both had been on catheter life for years—both seem to void perfectly, but one has 4 ounces of residual urine, the other 5. The general condition is remarkably improved.

**Group 3.** There are 6 patients, or 4 per cent., whose results seemed entirely satisfactory, who have had return of trouble. First patient, large median removed for frequent painful urination. Result—excellent; lasted one year. Became progressively worse after this time. Was not improved by dilatation. Another operation advised.

Second patient also bar—done nearly three years ago, complete relief one year. Returned—no relief from sounds. Three other patients, perfect results for four months, six months, and one year, respectively. Two of these patients were dilated with sounds and have been entirely relieved of their symptoms, whereas, before operation dilatations had no permanent effect. The sixth case—incrustrated cystitis and contracted neck. Complete relief six months. Frequency and irritability since. The patient says he passed a perfect stream, which he could not do before, but is having great frequency and pain. Has promised for many months to return, but has never shown up. His trouble is evidently from his incrustrated cystitis. In other words, there have been 20 patients, or 13.3 per cent., who have received either no benefit or but partial relief. Therefore, this operation has proved entirely satisfactory in correcting the condition in 86.7 per cent.—a figure which appears quite gratifying.

In order to follow the late results in this operation, we have examined carefully the questionnaires from the patients, done during the first two years, 1920 and 1921; during this period there were 70 operations. These were, of course, tabulated in the figures of the other patients reported, but it is exceedingly interesting to note that, aside from the five poor results which were reported, which occurred from patients operated on in this period, there has never been a recurrence of trouble in any of the rest.

The recurrences have all come within one year. There has never been a stricture of the urethra in any of these older cases. We have employed this method very successfully as a post-operative measure in certain cases of delayed closure following prostatectomy. You are all familiar with delayed healing following supra-pubic or perineal, particularly the supra-pubic, from contractions at the orifice, or from tags. Many of these respond to dilatations, but an incision through the orifice is necessary for prompt healing in a few cases.

We have been very gratified at least in about 15 cases, which were stubborn in healing, to have them promptly closed after the punch was used. In many of these patients we have tried various things without success.

**Cancer of the Prostate:** One of the most encouraging fields for the employment of this instrument has been in cancer of the prostate. We have used this instrument on 10 patients—most of them have been inoperable. We are all familiar with the fact that cancer of the prostate is seldom productive of large intravesical lobes. In conjunction with perineal radium, deep x-ray therapy, the punch has been most valuable in giving comfort to these patients. We have had several with severe inoperable cancers of the prostate, with generalized metastasis to bones and other tissues, who were suffering frightfully with vesical tenesmus. Several with complete retention, where instrumentation was almost unbearable, who were immediately relieved by the punch.

Two of these patients I wish to cite to you. The first I saw one and a half years ago with generalized metastasis to bones, severe pains in the girdle and legs—extreme difficulty with urination—frequency of every 15 minutes, day and night, accompanied by severe pain. Perineal implantation of radium, deep x-ray therapy—diminution in the size and some softening of the gland. Practically no relief to urination. Punch operation completely relieved the urinary symptoms for three months; return of symptoms. Second punch—again relief, lasting three months. Third operation—orifice at this time was so tight that instruments could only be inserted under anesthesia. Large section removed. This was a year ago. Patient has never had the slightest difficulty of urination—gets up once or twice at night. No pain. There is not a half ounce of residual urine in his bladder at the present time. He is practically dead of his cancer.

The other patient, seen 11 months ago; severe vesical tenesmus, large rectal prostate, hematuria, profuse bone metastasis, emaciation, uræmic; x-ray therapy radium application to perineum. Punch operation later; complete relief of urinary symptoms until the present time.

All of the patients have had relief of urinary symptoms by this operation. Operation

of this type is certainly preferable to a supra-pubic drainage. In fact, my experience with supra-pubic drainage for the relief of vesical tenesmus has been entirely unsatisfactory. It certainly does not add to the general comfort and well-being of the individual.

In conclusion: I feel it is fair to assert that this operation, with its simplicity in technique, its freedom from serious complications, and its negative mortality, should occupy a more important field in urology, and I believe that if urologists would interest themselves more definitely in the proper study of these particular types of vesical orifices and utilize its technique, they would be naturally gratified with the results, and I feel confident that the general mortality of prostatic surgery would be greatly lessened.

I trust, therefore, that these results have fulfilled the requisites set forth in the preamble of this paper.

**DR. J. H. CUNNINGHAM, Boston:** We have had a subject we are not entirely familiar with presented in an interesting way, and the subject is now open for discussion. I will call on Dr. Keyes, who has had experience with the Chetwood operation, to open the discussion.

**DR. E. L. KEYES, New York:** I love Dr. Caulk so much that I hate to discuss his paper because I haven't had such good luck with his instrument as he has had, which is natural. He has worked up the instrument with the electricians who make it in St. Louis. I was unable to get with his instrument the transformer that he uses. I got only his instrument which he has shown here. Immediately after he published his paper I was enthusiastic over his paper and am enthusiastic over it yet, but I am not enthusiastic over my ability to manage the instrument, with the electrical attachment, in New York, in view of the fact that in the hospital where I go, and in my office, we have the direct current. I have used it 50 times. I have relieved retention 50 times. I have had one case of severe hemorrhage due to the fact that the instrument didn't burn well. The instrument I have seemed a trifle frail. I haven't used it in two years.

I know that Dr. Caulk is to be much congratulated for having relieved a great many people of their woes, but I am going to bet that the relief he gives them is not so permanent as he has thought.

As Dr. Cunningham stated, I have been enthusiastic about the Chetwood operation. I am inclined to class all operations of this sort as relatively palliative operations rather than the more radical removal of the prostate. You all know that the sclerotic prostates have intra-urethral lobes. In some cases the bladder neck

is all that needs attention. But in some cases it needs more attention than we can give from these operations.

To return to the Chetwood operation—I read a paper in Boston a number of years ago in which I reviewed all the cases of the Chetwood operation, 75 in all. They all of them relapsed; the retention of urine returned; some of them taking as long as five or seven years before having return of their retention. That wasn't because of inefficiency of the operation at the time it was done, but because the sclerosis kept on growing or the patient got an adenoma. I have seen a sclerotic bladder neck have added to it an adenomatous enlargement of the prostate; and the condition for which we are operating will continue if the patient lives; and I am sure a large proportion of Dr. Caulk's cases will have a return of their trouble. That isn't to say that his operation isn't efficient in having relieved the patients of their trouble at the time the graver operation would be a more difficult operation to do.

Dr. Caulk says that they take all prostates out with acute retention of urine. If they do that, they will have trouble with their cases because they haven't all become adenomatous, and they will not remove the whole adenoma-bearing region which will grow and cause trouble. One of my Chetwood operations was a mixed operation. I burned his bladder neck and removed the small adenomatous lobe. He had complete retention before and was cured for ten years, and then he got an adenoma again of the opposite lobe; so that these operations remain palliative. Nevertheless, if I had a contracted bladder neck, I should be moved to go out to Dr. Caulk and have the operation because I know he tells the truth and does the operation well.

I hate to open the discussion in such a mournful, lugubrious tone. I know his operation is excellent. I have seen him perform it, and it is the most beautiful thing you ever saw.

DR. EDWIN BEER, New York: I have had no experience with Dr. Caulk's punch operation. I was much surprised at the number of cases he reported after the 50th year. In my experience the majority of contractures of the neck have been seen in younger people, some in the first decade; and the adult cases are almost all between 35 and 55. I was wondering whether he was punching out some of those folds of the neck of the bladder which occur in incipient adenoma which are often the cause of symptoms.

As far as the punch is concerned, the only one I have used is the cold punch modification of Dr. Young, and I have only used that in selected cases. I prefer to go in from above, owing to the difficulty of cystoscopic interpretation, and excise the neck of the bladder wide into the prostate. Now, looking at the picture

that we obtain through the bladder, it is striking how often there is a secondary obstruction beyond the neck of the bladder in the verumontanous urethra; and with a punch the second obstruction isn't detected and surely not treated. If the picture at the neck of the bladder is not so visualizable to me that I can be sure that the tissue which is obstructing can be grasped by the punch, I prefer to go in suprapubically and make a wide excision and take out a wide piece of the neck, which has been dilated by the finger, and then take a stitch from the mucosa of the bladder to the mucosa of the posterior urethra.

DR. J. A. GARDNER, Buffalo: I haven't had any experience with Dr. Caulk's punch, but one of the things that interested me very much was a statement of Dr. Keyes that he is using on these cancer cases a palliative proposition. I thought in these cancer cases if you put in a supra-pubic drain in an unpleasant case you do not relieve them a lot. This opens up a view—if this punch gives you the drainage and gives you the relief in some people who have been treated with radium and x-rays who are going on dying of their cancer, it is helpful; but what bothers me at the time is the irritable bladder. When I have been trying to relieve with the Young punch I have had trouble with bleeding, and Dr. Caulk not having that trouble, opens up a thing that is worth trying out.

DR. FRANCIS HAGNER, Washington: I was one of those some years ago who did the Finney operation; and the patients were immediately relieved; but there was a return of the obstruction in a large percentage of those cases. I have done quite a number of Dr. Young's punch operations. Dr. Young tells us that these cases don't bleed, but if anyone has had experience, they do. Of course, they don't call Dr. Young to the hospital to attend to these cases; but if they talk to his residents, they do tell you the trouble. And I have had the same trouble in cases I did supra-pubically and perineally; and at the time I did the supra-pubic I put my finger in the bladder. Your first bite is generally pretty easily made. You put your instrument in, and it holds there pretty well, and you can make your cut without trouble. When you make lateral cuts there is more difficulty, because of relaxation, and when you have your finger in the bladder you have got to hold it that way (showing) or it will slip out. He (Dr. Caulk) is right when he says it has got to be held firmly. Furthermore, when I have cut the internal urethral orifice you put your finger into the urethra and you find an outgrowth in the urethra in these fibrous prostates; it is almost impossible to enucleate them, yet if you put your punch in first you can take out a considerable mass of tissue which other-

wise you couldn't take out because there is a hard, fibrous band there you could hardly put your finger in.

I believe from these palliative operations you rarely get the brilliant results that you do from removal of the gland in these fibrous cases. I have had these cases I did the punch operation on, and many were comfortable and got along well, but they were not entirely free from residual urine. But if you take the prostate out and there are no diverticula present, the patients have practically no residual. I have done this operation of Dr. Caulk's on several patients and, fortunately, at the hospital where I work there is no trouble about heating the instrument up; the pain isn't so great. I have done them with just cocaineizing the urethra without injecting cocaine into the gland at all. It has always seemed to me that when you infiltrate the tissues you fill the tissues up so that you get more tissue. It is over in a few seconds, and it isn't very severe; and when the instrument is properly heated, it goes through with little trouble; and these cases do not bleed—he is right about this—and they certainly bleed when cut with a cold instrument unless something is done to control it.

I am sure he is to be congratulated on this. He is more expert than I am, but I have had several good results, where there has been a considerable amount of residual urine where they have been relieved by this operation, and I do not think we can lay too much stress on the cystoscopic picture in these cases. The question I asked him when he showed these drawings—in the typical case you see all these views in the same plane; you don't have to push it back a centimeter into the bladder to get the outline of the prostate as you do when you have lobulation of the lobes. I feel that this operation is more applicable to the perfectly smooth internal urethral orifice than any other type of operation.

DR. WILLIAM F. BRAASCH, Rochester, Minn.: What is your experience as to the proportion of cases where prostatectomy is necessary, in proportion to the necessity for a punch only?

DR. A. L. CHUTE, Boston: I should like to talk but I have no right to because I haven't tried it. It seems to me that the principle is wrong, it is working in the dark; and when it comes to doing these things in the office, it is bad surgery.

DR. CAULK: I never do anything unless they are drained.

DR. CHUTE: I agree with Dr. Hagner and Dr. Beer that these people have the intra-urethral lobe which you would not get in this way; and my feeling is to go in from above

rather than in from below where there is a sort of a diaphragm-like contraction and get out what tissue you can and split the outlet. It is a better operation though it lays them up for a longer time; but it is a safer operation, and I think in operators with less experience than Dr. Caulk has, his operation might do a great deal of harm.

DR. R. F. O'NEIL, Boston: I would like to ask Dr. Caulk about the preliminary preparation of these patients.

I would like to ask him if he has ever employed this in cases of tabetic bladder where there is a question of obstruction as well. I have never used the cautery but have used the punch.

DR. J. D. BARNEY, Boston: I have had no experience with the electrical cautery at all, but my experience with the cold punch is similar to Dr. Hagner's,—that hemorrhage is liable to occur, and the only way to do it is under the direction of the eye through a supra-pubic incision.

DR. J. H. CUNNINGHAM, Boston: I have seen Dr. Caulk do this operation, and the patients whom I have talked with, following operation, have expressed themselves as relieved or cured, and most grateful to Dr. Caulk.

As to the permanency of results, time only will tell. I think we will all agree, however, that there is a definite pathology of prostatic obstruction of bar formation which must be dealt with in some way or other, and that the punch operation, by one of the various special instruments, has a field of usefulness.

For my own part, when recognizing such a pathology, I believe it to be best dealt with by one of the punch operations. It has long been my custom to use the "cold punch," through a perineal section, feeling that I could better control hemorrhage in that way. It has the disadvantage of a perineal section, to be sure, but the complication of hemorrhage, which seems to me to be the bugbear of the "cold punch" operation, is thus minimized.

The outstanding feature of Dr. Caulk's technique appears to be the lessening of the complication of hemorrhage, and having seen him do the operation, without this complication, and having talked with his patients, I have purchased his instrument, and have performed the operation which he has described. My experience is limited, and I have nothing to say about late results, but hemorrhage has not been annoying in my experience with Dr. Caulk's technique, which is in direct contrast to my experience with the "cold punch" technique done via the urethra.

The possibility of performing the operation through the urethra under local anesthesia and

without hemorrhage, which so often accompanied the "cold punch" operation, seems to me to be a very distinct advantage.

I think that all new things, such as that which Dr. Caulk has brought to us, may not be enthusiastically or unreservedly accepted, which is, perhaps, as it should be; but we should reserve definite statements, one way or the other, until we have had some practical experience. Here in Boston we are always reluctant to take to new things, and I do not doubt at all that if we had the progressiveness of the Middle or Far West, we would accept this new technique more readily.

For one, I have seen enough of Dr. Caulk's work to convince me of its merit; and when he comes to us with his results in so large a series of cases, admitting that it is at times only a palliative operation, and that when the patient receives but partial relief the operation can be repeated with further improvement or cure, and that recurrences, if they do occur, can be simply dealt with without danger, but with permanent or temporary relief of the prostatic obstruction, —I feel that we have had presented to us a most useful technique which fits into the scheme of things in connection with this form of prostatic obstruction.

DR. JOHN R. CAULK, St. Louis (closing): I knew exactly what I was running into and I got my foot a little wet. I want to thank you for this liberal discussion and, particularly, Dr. Keyes, who told facts as I see them also. These necks are contracted necks and scary scars, and scars usually stay, and the tendency is to contraction, whatever you do with them; but these cases I have analyzed, the pre-war ones, have gone from one to four years and are in good shape. We have the old punch, the cold cutting punch, and patients after ten years who are well. But some do contract, and they are bound to. For that reason, if we had something to palliate them when they were young, or to fix them when they were older, we might have something to give this type of surgery. And we have something. I don't hesitate about the punch, haven't had trouble; we may all get trouble, but I have been fortunate in not having had trouble with this instrument. I have no tender feeling about this instrument. If it is bad, I want to know. But I know we have had 20 per cent. over 80 years old; and from my experience the older the man, the smaller his prostate. And we really have had gratifying results with these fellows. They go along and they are not bothered, and we haven't had trouble with them; and I am sure in the type of the old fellows we have operated upon, they would have a high mortality with any operation.

Now, as far as preparatory treatment goes, I feel that we are all in accord. We always

drain and try to get the patient in as good shape as possible. I never do a supra-pubic drainage on anybody until I am convinced that I have a 95 per cent. chance that I can get him well without uremia or something else of that sort—perhaps not emboli; but we always follow their phthalein, etc.; and it has been observed, in my experience, we send them to the hospital and then let them go home. I haven't had a clot except on that one occasion.

I have done several punch operations on cases with tabetic bladders with nerve lesions, and have had several good results; and I have reported a couple of failures also.

The proportion is hard to get—Dr. Braasch's question. In the last two years we have had 50 per cent. come to us and that, naturally, makes the average better.

At any rate, I do believe that it has a large field. I think that there are a lot of these patients who can be cleared up with this type of surgery, and then, if something comes up later, do it again or something else; but I have seen men open supra-pubically and take a little piece out and call it a day. If there is an intra-urethral lobule, then, of course, you have got to do a larger job, but at any rate we have had very comforting results with these patients and I hope they keep on staying uncontracted.

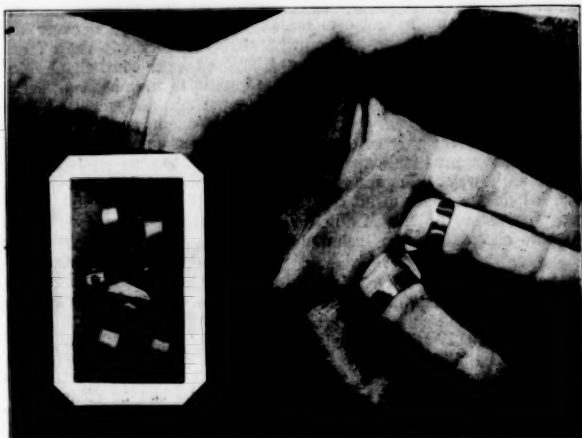
End of discussion. Adjournment.

#### INFANTILE BRONCHO-PNEUMONIA

Dr. Jean Meyer, of Paris, has recently published "*La Broncho-Pneumonie du Nourrisson; Etude Physio-Pathologique et Thérapeutique*," embodying the results of his metabolic studies on infants with broncho-pneumonia. He believes that two types of broncho-pneumonia exist: one, with diminution of evaporation, increase in weight and edema, resulting in anoxemia with suffocation is a clinical symptom; the other with excess of evaporation, diminution of weight and dehydration, resulting in toxemia, clinically. Serotherapy and oxygenation he believes give favorable results therapeutically.

#### SPIRITUALISM AND INSANITY

Professor G. M. Robertson, the physician superintendent of the Royal Mental Hospital at Edinburgh, has recently met with three cases of insanity which were clearly traceable to spiritualistic practices. He warns nervous subjects not to dabble in spiritualism lest this might lead to loss of mental balance. Unfortunately, it is just persons of the nervous, imaginative type who are most attracted to the occult and most apt to come under the influence of impostors.—*The Medical Press*.



## THE REGISTRY OF BONE SARCOMA SCISSORS

E. A. CODMAN, M.D., BOSTON

This instrument is fully shown in the figures. It consists of the blades of a small pair of scissors with two metal rings welded to the backs of the blades. The metal rings are slipped over the two middle fingers just behind the proximal joints. The surgeon can wear it without hindrance while operating and can cut his ligatures and sutures very readily and so rapidly that the act appears "sleight of hand." Any surgeon can have one made for him by cutting off the ends of a small pair of scissors back of the screw, and having rings of brass or German silver welded on the backs of the points. I believe this instrument will be widely used and although slight details may be changed the principle of using minute scissors in the clefts between the fingers is likely to survive. It is intended to have a number of these instruments made up and stamped "Registry of Bone Sarcoma." If any surgeon wishes to try one, I will gladly order one for him at cost.

We all want to contribute our bits to surgical technique and to surgical science. This is my bit, for I believe this principle is not in use. So far as I know it is the first cutting instrument to utilize the power of the interossei and lumbricales. It leaves all the ordinary mechanisms of the hand free for other uses. The idea occurred to me from seeing Lower's ingenious thimble device for the same purpose. If this bit survives, I hope the idea of the Registry of Bone Sarcoma will survive with it. I would like to see the instrument become a little mechanical conscience, at least as far as registering cases of bone sarcoma is concerned. It will tell its owner that he should do something for medical science in return for the multitude of facts and appliances which medical science daily permits him to use.

It is my hope in presenting this instrument to the profession that it will become the fashion to make it socially uncomfortable for any surgeon who is found using this appliance, if he has not recorded his cases of bone sarcoma to the best of his ability. He must be "jollied" into registering or "jollied" out of using the scissors.

Partly to control the name of the instrument and partly to make a fortune out of it, should its use extend to industry and to the household sewing basket, a patent has been applied for. I am much more likely to make a fortune from this patent, than I am from my knowledge of bone sarcoma, for I have repeatedly stated that I shall never make any charges for seeing in consultation patients with this condition. When my ship comes in and all the surgeons in the United States are reporting their cases, I shall be able to write a beautifully illustrated book on "The Registered Cases of Bone Sarcoma."

A description of the object of the Registry may be found in *Surgery, Gynecology and Obstetrics*, March, 1922, pages 335-343, and another paper describing its method of procedure is now in press and will soon appear in the same Journal, probably in May, 1924.

Other Journals may copy.

**Case Records**  
of the  
**Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY  
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.

F. M. PAINTER, ASSISTANT EDITOR

CASE 10171

An unmarried American cook of forty entered October 1 in coma. The history was given by friends who saw her about once a month.

F. H. Both parents died in old age, possibly of apoplexy. There was no heart or kidney trouble in the family.

P. H. She had had no complaints up to the time her friends last saw her, ten days before admission.

*Habits.* Good.

P. I. After showing no signs of previous trouble she was found lying unconscious on the kitchen floor.

P. E. An obese woman in coma, with stertorous breathing, at times Cheyne-Stokes. Mucous membranes pale. Teeth all gone. No evidence of facial or ocular paralysis. The left arm was raised constantly to her head. The right arm was flexed at the elbow and the hand at the wrist, and was held rigid; she moved it, however, at times. She also moved her legs. When pinched or otherwise irritated she moaned and at times moved her extremities. No head injury was made out. No discharge from nose or ears. Apex impulse of the heart indefinitely felt in the fifth space outside the nipple line,  $6\frac{3}{4}$  inches to left of midsternum, corresponding with the dullness. No enlargement to the right or subternally. Action normal. First sound at apex short and sharp. A, a little accentuated and ringing. Pulses very high tension. Walls not sclerosed. B. P. 240. Nothing abnormal found in lungs or abdomen. *Extremities* not recorded. *Pupils* very small, regular, left somewhat larger than right. No reactions. *Reflexes.* Knee-jerks lively and equal. Double Babinski. No clonus or Kernig.

T.  $96.9^{\circ}$ - $101.5^{\circ}$ . P. 63-85. R. 24-29. *Urine.* Amount not recorded, sp. gr. 1.014, a trace of albumin, strong reaction to Fehling's; no sediment obtained on centrifugalization.

The patient continued in deepening coma. The extremities became flaccid and motionless. She died from respiratory failure the day of admission.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

The essential facts here are: an obese woman in coma, stertorous breathing, Cheyne-Stokes breathing, teeth all gone, no evidence of facial or ocular paralysis. The left arm was raised constantly to the head, the right arm flexed at the elbow and the hand at the wrist, and both held rigid. She moved it however at times, also her legs.

The apex impulse is about 16 cm. from midsternum, which in an ordinary woman would mean a pretty big heart.

DIFFERENTIAL DIAGNOSIS

The main facts are: hypertension, big heart, sudden coma, with normal urine aside from the Fehling test, which in coma we get so often that I do not think we can pay much attention to it in a patient who has had no history of diabetes before. I do not see that they tested for the acid products. In the absence of any knowledge about that the obvious diagnosis seems to be cerebral hemorrhage rather than uremia, cerebral hemorrhage based on chronic nephritis or on hypertension without nephritis.

The evidence of nephritis is not good, but such a blood pressure as this goes more often with nephritis than with other things, in case it is not produced by the coma itself. We cannot swear of course that it is not produced by the coma itself.

A brain tumor might have remained wholly latent until there came a hemorrhage into its substance, as we get so often in the gliomata; that might give all the evidence of hemorrhage with a high blood pressure as well. But that would not account for the enlargement of the heart, and I think we have evidence of enlargement of the heart. Therefore the blood pressure is not due to cerebral conditions, therefore it is, probably, due to nephritis. We do see high blood pressure, as high as this, in women of forty without any evidence of chronic nephritis, but I never saw one come to necropsy.

So I think this is chronic nephritis, with hypertrophy and dilatation of the heart, cerebral hemorrhage going into the ventricles or into the base of the brain or into the frontal lobes so as not to give a distinct paralysis.

A PHYSICIAN: Isn't it unusual to have that kind of nephritis in the obese?

DR. CABOT: I think not.

A PHYSICIAN: My picture of the chronic nephritic is that of a lean, lanky, pale type of person.

DR. CABOT: I have not that impression. Certainly hypertension is commoner in fat people than it is in thin.

A PHYSICIAN: You say it is not uncommon in a terminal affair like this to get sugar in the urine?

DR. CABOT: Any coma, so far as I know, often gives sugar in the urine. All the books on diabetes call attention to that.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Cerebral hemorrhage.  
Chronic nephritis.

#### DR. RICHARD C. CABOT'S DIAGNOSIS

Chronic nephritis.  
Hypertrophy and dilatation of the heart.  
Cerebral hemorrhage.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesions

Hemorrhage (spontaneous) of the brain,  
(basal ganglia, left).  
Multiple focal hemorrhages of the pons.  
Sclerosis of the cerebral arteries.

##### 2. Secondary or terminal lesions

Slight dilatation of the heart.  
Multiple hemorrhages of the lungs (parenchymatous).  
Slight edema of the lungs.  
Enlargement of the spleen.  
Acute passive congestion of the kidneys.

##### 3. Historical landmarks

Hydrosalpinx.  
Corpus hemorrhagicum (unruptured).  
Obesity.

DR. RICHARDSON: An obese woman, forty years of age, with arteriosclerosis and hypertrophy and dilatation of the heart. The heart weighed 440 grams. The kidneys showed congestion. The organs in the trunk were otherwise negative.

In the head was well marked arteriosclerosis of the vessels of Willis and an extensive hemorrhage on the left, with marked hemorrhagic disintegration of the basal ganglia on that side, and multiple focal hemorrhages in the pons.

DR. CABOT: There is nothing wrong in the

kidneys except congestion. That seems to me very interesting, because this is one of the cases where we can say, This is Allbutt's *hyperpiesia* or essential hypertension which has not affected the kidneys, which we cannot say is due to arteriosclerosis I think, and which ends in a cerebral hemorrhage. For her size would you say that that enlargement of the heart was moderate or considerable?

DR. RICHARDSON: For her height, five feet seven inches, and her obesity I should say it was moderately enlarged.

DR. CABOT: It is unfortunate that we do not know anything in regard to the question of hypertension before she became comatose. We cannot swear it was not there.

DR. RICHARDSON: Not according to the report.  
A PHYSICIAN: Was a Wassermann done in this case?

DR. CABOT: It is not recorded here, and I think it is usually recorded when it is done. This case was probably before Wassermans were done as a matter of routine.

That question of whether arteriosclerosis itself causes hypertension has been discussed a good deal. I think the best evidence is that it does not.

A PHYSICIAN: Of course the hypertension could be associated with the hemorrhage.

DR. CABOT: Perfectly, all of it. But then we should not have accounted for the heart. We do not know the diastolic blood-pressure. I have no doubt it was high.

#### CASE 10172

An Irish housewife of thirty-five entered December 17.

F. H. Good.

P. H. Negative except for measles in childhood, pneumonia and pleurisy.

P. I. Three weeks before admission she had a miscarriage preceded by a vaginal flow of blood clots for four days associated with pain. She was operated upon at home to complete the miscarriage. Since the operation she had had almost daily vomiting, especially in the morning, diarrhea and pain associated only with retching. Her last menstrual period was September 14.

P. E. A poorly developed and nourished, tired looking, somewhat depressed woman. A shallow tender ulceration on the inner side of the lower lip directly in contact with several of many carious, apparently abscessed teeth. Pyorrhea. Apex impulse of the heart and percussion measurements not recorded. Systolic murmur heard all over precordia, best over the

apex. *Lungs* negative. *Abdomen*. Moderate tenderness on pressure over almost the entire abdomen. By inspection and palpation there was a suggestion of fullness just to the right of the umbilicus. *Pelvic examination*. Slight bloody discharge. *Cervix* normal. Fundus not made out. Tenderness in vaults, especially the left. *Rectal examination*. Valves of Houston thickened; a suggestion of ulceration on one. A small polypoid-like growth, rather hard, could be felt arising from the rectal mucosa.

Before operation *T.* 98°-102.7°, *P.* 90-140, *R.* 16-38; amount of *urine* not recorded, sp. gr. 1.015-1.018 at the three examinations when it was determined, cloudy at three of seven examinations, the slightest possible trace to a trace of albumin at all; a catheter specimen at entrance showed 5-6 leucocytes per high power field with fine brown granular casts and hyaline casts with cells. Two later examinations showed brown granular casts, two more fine granular casts, five of six pus. *Renal function* 15 per cent. *Blood*, hgb. 90 per cent., leucocytes 27,300-9,000, polynuclears 93 per cent.-89 per cent. *Non-protein nitrogen* 145.5-130.5. *Stools*. Guaiac positive at two tests.

The patient had occasional vomiting three times the night of December 30. She took liquids well. Masses continued to be palpable in both lower quadrants.

January 3 operation was done. Considerable drainage persisted the next day and the patient was very ill. January 6 she was much worse and still vomiting. Next day the stomach was washed with little result. The pulse was 120-140. January 8 she passed gas and feces by rectum. She was incontinent of taps.

January 10 900 c.c. of blood was transfused. She was much better after this. Next day the wound was cleaning up somewhat, but discharging much pus. There was marked diarrhea. She had much difficulty in swallowing. Subpectorals were given. She had cellulitis of the neck, drained under novocain. She grew gradually weaker, refused food, and January 13 died.

#### DISCUSSION

BY DR. HUGH CABOT

In this case there is apparently no need to deal with any questions antedating the miscarriage of three weeks before admission.

One assumes that the operation was done for the purpose of completely emptying the uterus of the products of conception. Apparently her troubles date from that time, though it is not necessary to assume that they date from the operation.

There is ample evidence that during the past three weeks she has been a pretty sick woman, the ulceration of the lip being one of the indications of a serious widespread infection.

The examination of the abdomen leads to the presumption that the infection in the pelvis is directly associated with the miscarriage. She clearly has a considerable amount of pelvic peritonitis, and the most important question is whether the condition be chiefly involvement of the uterine appendages with concurrent pelvic peritonitis or whether she has what is often called a pelvic cellulitis, that is to say, a retroperitoneal spreading infection often associated with phlebitis and septic thrombi.

By far the most interesting and difficult question turns upon the condition of the kidneys. The urine is, to put it mildly, strongly suggestive of nephritis, showing albumin and casts of various kinds, including cellular casts. The catheter specimen of urine makes it quite clear that at that time there was no gross infection of the pyelonephritic type. The absence of blood and the low renal function, as estimated by phthalein, tend to exclude anything properly called acute nephritis, since in that condition the phthalein function is likely to be within normal limits or even above normal limits. The high non-protein nitrogen makes it perfectly clear that there is very marked renal insufficiency.

The progress of the situation for two weeks or more after entrance showed some improvement of her general condition, but I assume that she continued to have varying amounts of fever, and the evidence of pelvic masses increases the probability of definite more or less circumscribed pelvic peritonitis.

I believe there was here a sufficient indication for operation for the purpose of evacuating pus from the pelvis, and I assume that they had evidence of sufficient improvement in her renal function to make it probable that she would withstand operation.

The anesthesia to be selected for operation would I think be of some importance. Ether would obviously be highly objectionable. Local anesthesia or spinal anesthesia would not, I think, be a satisfactory method—the former because inefficient, the latter because not entirely safe at this level. I therefore think that the choice would lie between gas and oxygen and ethylene, my present view being that ethylene is probably superior for this purpose, our experience during the past six or eight months with this gas having been highly satisfactory.

#### DR. CABOT'S PRE-OPERATIVE DIAGNOSIS

Bilateral salpingitis and pelvic peritonitis.

## PRE-OPERATIVE DIAGNOSIS

Pelvic abscess.  
Abortion.

## OPERATION

Local novocain. Four inch midline lower abdominal incision. The whole lower abdomen was a solid mass extending upward on the left to the costal border and the midline. On the right there was some thickening, but not so marked. The omentum was everywhere adherent to the anterior abdominal wall, and the whole lower abdomen felt like a solid mass. After breaking through the omentum and going down into the pelvis about six ounces of thin foul pus escaped. In the left upper abdomen there was another abscess cavity which did not communicate.

## FURTHER DISCUSSION

Evidently there was ample basis for the diagnosis of pelvic abscess, and the operation did not develop the exact origin. The separate abscess in the left upper abdomen is I think the most unfavorable finding, as it suggests that there will probably be other abscesses which were not evident but will play their part later.

Her condition after operation was such as one would expect after the drainage of such abscesses. There is no clear evidence of any important spread of peritonitis, the picture continuing to be that of more or less localized abdominal sepsis.

The transfusion was undoubtedly a sound procedure, partly as a method of making up for some loss of blood and most importantly as a stimulant to enable her to fight infection.

The death was one of sepsis, the cellulitis in the neck apparently being a metastatic abscess.

Necropsy will I think show evidence of widespread septicemia, probably with a large spleen. I shall be surprised if other undrained abscesses are not found within the abdomen, and think the definite focus will probably be found in one or both tubes. On account of the condition of the kidneys on admission I feel required to make a diagnosis of nephritis, perhaps with an acute glomerulonephritis on top of a chronic process.

## CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Peritonitis.  
Operations, drainage of pelvic abscess, drainage of neck.  
Salpingitis.

## DR. HUGH CABOT'S DIAGNOSIS

Pelvic peritonitis.  
Salpingitis.  
Undrained intra-abdominal abscess.  
Chronic nephritis.  
Enlarged spleen.  
Septicemia.

## ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

Chronic ulcerative colitis with necrosis and perforation of some of the ulcers.

2. *Secondary or terminal lesions*

General fibrinopurulent peritonitis.  
Tubular nephritis.  
Soft hyperplastic spleen.  
Fatty metamorphosis of the liver.

3. *Historical landmarks*

Operation wounds.  
Chronic peritonitis.  
Chronic appendicitis.  
Fibromyomas of the uterus.

DR. RICHARDSON: We were not permitted to examine the head.

Trunk. In the midline of the neck, just below the chin, there was an open wound 2 cm. long which led down into the subcutaneous tissues. In the left cubital space there was a short sutured wound  $3\frac{1}{2}$  cm. long. In the anterior abdominal wall, pubes up, there was an open wound 10 cm. long the margins of which were somewhat necrotic and infiltrated with purulent material. The wound led into the pelvic cavity. The abdomen was distended, but the wall yielded. The skin generally was pale to a little dusky. The muscles were thin and pale.

Peritoneal cavity. The lower margin of the great omentum was bound down by a few old adhesions in the region of the pelvic cavity. The coils of intestine generally were stuck together by fibrinopurulent exudate and in places between the coils there were small pools of pus. In several places between the coils of intestine there were a few old adhesions. In the region of the lower end of the small intestine there were numerous old adhesions extending between it and the cecum in the region of the appendix. The appendix was lost in this mass of adhesions, but in places small portions of it were made out, and in these situations its wall was thickened, tough, and no very definite lumen was made out,—a frank fibrinopurulent peritonitis and chronic appendicitis with chronic peritoni-

tis. The old adhesions produced no definite obstruction of the intestine. The mucosa of the large intestine beginning in the region of the first portion of the ascending colon and extending down along it to the lower end of the rectum showed numerous smaller and larger losses of substance outlined by rounded dark red velvety margins rather abruptly descending to smooth clean bases. The ulcers generally showed the quasi-denuded character of ulcerative colitis. These ulcers in several places, best marked in the region of the sigmoid and in the region of its junction with the rectum, showed marked necrosis of their bases, leaving only in many instances thin veil-like layers between them and the peritoneal cavity. In many places there was complete loss of continuity of the wall and perforation into the peritoneal cavity. In the region of the pelvis, where many of these perforations were located, the peritoneal aspect of the intestine was coated with much fibrinopurulent exudate. The wall of the intestine was slightly thickened in some places, but on the whole showed no very great thickening anywhere. There was no evidence macroscopically or microscopically of tuberculosis or of amebic infection, and the condition was regarded as chronic ulcerative colitis with necrosis and perforation of some of the ulcers. The fibrinopurulent peritonitis of course followed.

The liver was negative except for old adhesions extending between the right lobe and the diaphragm.

The spleen was slightly enlarged and the tissue plump.

The kidneys were rather large and showed some tubular nephritis in places.

The uterus was the seat of several fibromyomas, but otherwise was negative. There was a moderate amount of fatty metamorphosis of the liver.

Death in this case of course was due to fibrinopurulent peritonitis following the necrosis and perforation of the bases of the ulcers.

#### FURTHER DISCUSSION BY DR. CABOT

I confess to being entirely surprised at the condition of the intestine, as I had regarded the diarrhea as simply part and parcel of the infection. Chronic ulcerative colitis is usually a disease of very long standing, and perforation is exceedingly uncommon. There is at least a strong suggestion that this condition was not as chronic as the cases one commonly sees, and that it was in fact associated with the infection taking place at the time of miscarriage.

The findings in the kidneys amply explain the phenomena at the time of entrance, though I should be interested to see what they will show microscopically, particularly in regard to the probable duration of the process. Upon the

evidence here given I do not think it possible to say definitely whether the nephritis was strictly associated with the infection, in which case one must assume a streptococcus type, or whether it was a much older process stirred up by the infection.

#### NOTE BY DR. J. H. WRIGHT

Microscopic examination of the kidneys showed necrosis of the epithelium of the tubules in places, such a condition as might go with any septic process.

#### CASE 10173

An American stationary engineer of seventy entered September 9 for relief of a growth on the penis.

F. H. Good.

P. H. He never had a doctor until a year ago, when he had a "nervous breakdown" from overwork. At the beginning of this illness he had what was called muscular rheumatism—great swelling and stiffness of the left arm for two or three months. His bowels were constipated. For two months he had urinated two or three times at night.

P. I. Three weeks before admission he noticed a small mass over the glans penis, not sore or painful. Soon after this he pulled back the skin from over the glans and started the mass bleeding. It was apparently attached not to the skin but to the glans.

P. E. Well nourished and well preserved. *Heart* sounds fairly loud. Definite irregularity, the rhythm being 1-3-5 sequence. Slight enlargement. A soft systolic murmur at the base. *A<sub>2</sub>* accentuated. Systolic B.P. 210, diastolic 140. Artery walls palpable. *Lungs.* Breath sounds slightly roughened. *Abdomen* negative. *Genitals.* On right side of dorsum penis just behind glans an irregular papillomatous growth arising from the mucocutaneous surface and extending one inch forward without involving the glans. Growth seemed very vascular, bleeding when the foreskin was pulled back. Thickening of skin and mucous membrane about the attachment of growth. No glands felt on dorsum penis or in the groin. *Rectal examination.* Right lobe of prostate hard and slightly irregular, larger than the left and very tender to palpating finger. *Pupils* normal. *Knee-jerks* slightly sluggish.

Before operation T. 97.3°-99°, P. 70-110, R. normal, amount of urine not recorded, cloudy, sp. gr. 1.018, blood not recorded.

September 11 operation was done. The patient showed much emotional unbalance next day and was very restless in the early night. A small catheter failed to go into the bladder. The patient voided small amounts. The dressing was changed to the groin because of exposure by the patient's handling the dressings. September 13 there was some hematoma of the serotal wall. The wounds were in good condition and the general condition much better, the patient voiding well. September 15 there was considerable serum in the wounds. The temperature remained down. September 17 the wounds were red, and four days later much redder. September 21 tubes were inserted into the wounds. The patient had some frequency during the night, voiding small amounts, but with a fairly large total. September 23 there was a residual of  $\frac{3}{4}$  iv. Some pus was expressed from the suture holes. The patient's worry amounted to a psychosis. There seemed to be some repression of urine, with a low renal function, 18 per cent. The non-protein nitrogen was 53.4 mgm. September 16, 43.2 mgm. September 24, and 43.5 mgm. October 1. September 25 he was put upon constant drainage. September 24, and 43.5 mgm. October 1. September was draining urine fairly well, but had frequent bladder spasms. The mental and general condition seemed much better, although there had been some gastric distress with vomiting for three or four days. That afternoon the temperature suddenly rose to  $101^{\circ}$ , the pulse to 112. Next day the temperature and pulse were down. The fluid intake and output were much improved. The general condition and particularly the mental condition were again much better. He complained a great deal of irritation from the catheter. The right wound had sloughed open, but had good clean granules at the base. The left wound was draining well. There was less gastric distress. October 1 there was great difficulty in voiding in the morning, better in the afternoon. The patient would not drink, and the intake was down to  $\frac{3}{4}$  80. The temperature was normal. Fluids were forced and the intake October 4-7 was high. The patient was feeling better, and on the 7th was up in a chair.

That night he was nauseated and irrational. The next afternoon he suddenly took a turn for the worse, voided less, and would not take fluids. He was put on urethral drainage and given a subpectoral. During the evening he seemed slightly better, but was still somewhat comatose. The temperature was  $104^{\circ}$  (rectal), the pulse of fair quality. There was moderate drainage during the night. The next morning he seemed a little better and recognized people. October 9 a second operation was done. He seemed to stand the operation well. By evening there had been only a small amount of drainage and he

was again somewhat comatose. Early the next morning he died.

#### DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

Of course at seventy this description of an easily bleeding mass is at once suspicious.

Does the description of the heart spell anything serious?

DR. CABOT: I should think it was a hypertrophied and dilated heart with arteriosclerosis probably.

DR. YOUNG: This is the description of a beginning malignant growth. The thing that would seem to take it out of the class of benign growths would be the definite thickening that is mentioned, and the hardness at the base. A papillary or wartlike growth does occur, but very seldom as much as that, and very seldom with the thickening of the base as described here. There is no reason why they should not occur at seventy. A specific ulceration would not be a growth, as this is. So it seems to me as though we have to consider this a malignant degeneration of a papillary growth.

Of course the operation is to remove it. If the belief is that this is a malignant disease theoretically the only thing to do is to amputate the penis and dissect the glands in the groin. I do not know how far it is heresy, but in three or four elderly patients in the last three years, where there was no evidence of gross metastases in the groin, I have simply either amputated the penis or taken out the growth from the vulva leaving a wide margin and trusting to x-ray to kill anything that might be in the groin. It is too soon to know whether I have done the patients harm, but so far they are all right. Maybe they would have been anyway. But the complete dissection of the groin, inguinal and femoral glands is very apt to break down. There is a tremendous amount of lymph drainage into it, and it is very apt to grow septic and make trouble.

I do not know whether they did a complete radical or whether they simply did an amputation or even less, a very thorough removal with cauterization.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Malignant disease of the penis.

PRE-OPERATIVE DIAGNOSIS SEPTEMBER 11

Carcinoma of penis.

FIRST OPERATION

Spinal novocain. Five-inch right inguinal right and left incision across penis. Skin incised in left groin and subcutaneous fat with glands dissected from skin and deep fascia, exposing fascia, external oblique, Poupert's ligaments and saphenous opening. All vessels clamped and ligated. Glands removed *en masse*. Similar procedure on the right. Wounds closed.

Tourniquet to penis. Circular incision of skin about one inch behind glans. Corpora cavernosa cut across about two inches behind glans and urethra; corpus spongiosum cut slightly distal to this. Vessels of penis clamped and ligated; tourniquet removed. Skin sutured across corpora cavernosa; urethra sutured to skin at lower pole of incision.

PATHOLOGICAL REPORT

There is a soft papillary growth 1.5 cm. in diameter at the corona of the penis. There is a mass of fat from the groin in which there are a few slightly enlarged lymph nodes.

Microscopic examination of the growth shows large clusters of atypical epithelial cells invading the underlying connective tissue. Sections of five lymph nodes show no evidence of metastases.

Carcinoma.

H. F. HARTWELL.

FURTHER DISCUSSION

This was not a radical removal of the whole penis.

Of course with the nycturia he has had, with his age, and with the feeling of a prostate, he may well have a certain amount of enlargement of the prostate and trouble arising from that.

The non-protein nitrogen is perhaps a bit above normal, but not enough to think much of.

Eighty ounces is a pretty good intake. It is hard to account for his temperature unless he is getting an infection somewhere in the urinary tract, because the wounds were draining well and there is no evidence of any spread of sepsis from them. Of course we have always got to figure on old man's pneumonia, which does not give evidence of its presence, but certainly it ought not to have gone as long as this without evidence of what was going on.

There is certain to be some infection in the urinary tract with constant drainage; there always is. Whether that infection is the whole story, and that infection grafted upon the kidneys already damaged will account for this picture or not, is hard to say. It will account for it—whether it does or not is the question. As I see the picture here the second operation was

done to give him better bladder drainage on the assumption that his trouble was coming from the urinary tract. Suprapubic cystotomy will give better drainage than urethral drainage. The only explanation that seems reasonable to me is that the incision of the bladder wall paralyzes the muscles to a certain extent so that the sphincter of the ureter is restricted and the kidneys get better drainage. Unless there is something left out here I should say they were doing a suprapubic cystotomy.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Suprapubic cystotomy for obstructing prostatic.

PRE-OPERATIVE DIAGNOSIS, OCTOBER 9

Obstructing adenomatous prostate.

SECOND OPERATION

Local novocain. After filling the bladder with about 150 c.c. of 2 per cent. boric solution the bladder was opened through a suprapubic midline incision stripping back the peritoneum with gauze. A half tube into bladder. Miller wick to space of Retzius.

FURTHER DISCUSSION

From the evidence we have at hand I should say that the whole story was sepsis in the urinary tract engrafted on kidneys already damaged by the back pressure of an obstructed prostate. I should like to have Dr. Richardson tell me how much heresy there is in what I said about procedure in malignancy. I do not mean it as a routine procedure, but in cases where we are a bit afraid of the patient.

DR. E. P. RICHARDSON: I should say in general that I dislike exceedingly to depend on x-ray for the direct regional lymphatics. Of course in this particular instance what was naturally feared in the operation happened, the inguinal dissections broke down. They almost invariably fill up with serum. If we put drainage in at once the drainage easily becomes contaminated from the urine or from the skin. I think that under the conditions this sepsis in the wound was not surprising. That of course should have been taken into consideration, with the patient's age and his high blood pressure and the suggestion of prostatic obstruction. I think in this case it would have been undoubtedly better to do a local amputation.

DR. YOUNG: Don't you think a large percentage of the extensive dissections do break down?

DR. E. P. RICHARDSON: Yes, I do.

DR. YOUNG: That is my main reason in the three or four cases I have done it in, depending on x-ray rather than taking a chance in an elderly person with a long open wound.

DR. CABOT: I suppose you might do it, mightn't you, facing the probability that it would break down, nevertheless do it thinking it might without complication heal up. In this case it might have if he had not had something else. So that you might go ahead to do it, mightn't you?

DR. E. P. RICHARDSON: Yes, you might.

DR. CABOT: Is there anything else to be said about this case or about the subject of malignant growths of the penis?

DR. E. P. RICHARDSON: I should say that metastases to the inguinal glands were common, that they very shortly reach the state where a radical dissection of the groin will do nothing for them, and that that had to be taken into consideration in deciding what to do in this particular case.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the penis.  
Hypertrophy of the prostate.  
Uremia.

#### DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the penis.  
Hypertrophy of the prostate.  
Septicemia.

#### ANATOMICAL DIAGNOSIS

##### 1. *Primary fatal lesion*

(Carcinoma of penis.)

##### 2. *Secondary or terminal lesions*

Septicemia, staphylococcus pyogenes aureus.  
Acute and chronic endocarditis.  
Multiple small abscesses of liver and kidneys.  
Small infarct of kidney.  
Soft spleen.  
Arteriosclerosis.  
Arteriosclerotic degeneration of the kidneys.  
Small thrombus of aorta.  
Hypertrophy and dilatation of heart.

##### 3. *Historical landmarks*

Partial amputation of penis for carcinoma with dissection of inguinal lymph nodes.

DR. OSCAR RICHARDSON: There was pus exuding from the operation wound.

The thorax was barrel-shaped, but the lungs were negative.

The heart weighed 455 grams, slightly enlarged. In the central portion of one cusp of the aortic valve was a reddish flat vegetation, and there was a small one on the mitral valve. The other valves were negative. There was a well marked arteriosclerosis of the aorta and great branches.

The liver weighed 2280 grams,—a large liver. Scattered through it were pinhead-sized whitish areas which turned out to be abscesses, and there were similar abscesses in the kidneys. In addition to that there was a small infarct in one of the kidneys. The kidneys otherwise showed foci of atrophy here and there, and some arteriosclerosis of the vessels. The spleen was enlarged, soft, mushy.

Culture from the heart blood showed a good growth of the staphylococcus pyogenes aureus.

DR. YOUNG: Do I understand that his prostate was not much enlarged?

DR. RICHARDSON: It was negative.

DR. YOUNG: The sepsis was the whole story?

DR. RICHARDSON: Yes.

#### CRITERION OF HEALTH

The test of a person's health has reference to his ability to adapt himself to his environment, physical or mental. Health is a relative, not an absolute condition. One who can adapt himself to his particular mental environment, who can carry on his duties, public and private, with moderate efficiency, is to be accounted normal in respect of that environment. Mental normality can only be considered in relation to a particular mental environment. One just able to carry on the duties of, say, an unskilled laborer would be sane so far as his occupation is concerned, but insane so far as the duties of a prime minister are concerned. A prime minister who suddenly descended to the intellectual level of the average unskilled workman would assuredly not be accounted sane.—*The Medical Press.*

#### BE NOT AFRAID—FEAR MAKETH A MAN WEAK

The man who is needlessly afraid never arrives, never achieves, and is a failure.

Most of our fears are groundless and due largely to imagined causes.

It is a grave mistake to implant foolish, needless fear in the minds of children. Many grown-ups have a sense of fear and dread in the dark, due to the fact that when children they were taught to be afraid.

Children can be made more obedient by love than by fear.—Chicago Department of Health.

## Book Review

*Labyrinth and Equilibrium.* By S. S. MAXWELL. J. B. Lippincott Company, 1923.

In a monograph of 150 pages the author describes the results of experiments on the labyrinth of the dogfish and allied fishes and gives his conclusions as to the functions of this interesting and important organ. The relation of this work to clinical otology consists in a novel concept of the reactions to rotation and caloric stimulation of the human ear, which differs essentially from the commonly accepted explanation of these phenomena.

The normal reflex movements made by any animal to maintain its equilibrium are first considered, together with the various compensatory changes in position brought about by the three great sensory stimuli: 1, excitation of the vestibular nerve; 2, retinal stimuli from the eye; and 3, different impulses from the tactile senses and muscles and joints. These may reinforce or at times oppose each other. The compensatory bodily movements which result from these stimuli consist chiefly in nystagmoid movements of the head and eyes, similar in all essentials to human nystagmus. In the fish, fin changes accompany these.

All changes in bodily position are classable under motion in three axes: 1, longitudinal; 2, transverse, and 3, vertical. Any combination of these is possible. With any of these the resulting changes in position of the eyes and fins is such as to retain the normal line of vision and normal body plane in space. Similar but permanent changes in position are often the result of various brain injuries, either unilateral as in the case of cerebellum, or bilateral as in the case of injury to the frontal or occipital lobes. Different injuries may result in the same forced or abnormal position; thus section of the right eighth nerve, or of the left mid-brain or right medulla, all have the same effect.

Experiments dealing with the labyrinth as a whole show that its unilateral destruction results in disturbances in muscle balance, in gait, and in a nystagmus to the opposite side. The eye reactions, apparently controlled from a single center, can be shown to be at times entirely independent and capable of independent response to cutaneous stimulation. Destruction of both labyrinths results in the fishes being content to maintain any abnormal position in which they may be placed, but is otherwise without obvious effect.

Contact and retinal stimuli are next shown to form an important part in the maintenance of equilibrium, and must be excluded in any tests of the vestibular apparatus alone. Muscle reflexes also play a similar part.

Experiments on the canal showed that stimulation of the ampullae is the equivalent of rotation to the same side in the plane of the canal, either vertical or horizontal. A fish with all six ampullae removed reacts almost perfectly normally except to horizontal rotation. The removal of the three ampullae of one side produces forced positions and defective reactions to rotation to the operated side.

Experiments on the vestibule (sacculus and utricle) by washing out all the otoliths with a pipette on both sides resulted in slower but otherwise normal reactions. Where all the ampullae and the otolith of the utricle were removed all compensatory movements disappeared, except the ability of the fish to right itself on the bottom of a tank (cutaneous response).

Removal of all otoliths on one side produced no effect. Thus the otoliths are shown to be entirely capable of maintaining equilibrium without any aid from the canals except in response to horizontal rotation, a rather different idea from the usual one which assigns to the otoliths purely a static function.

By most painstaking and delicate experiments the author has shown that the otoliths function not by pressure in the nerve endings but by a displacement which causes torsion on them. He concludes, but without experiment, that the ampullae act in a similar manner. Further experiments showed that only rotational stimuli result in compensatory labyrinth reactions, and that the torsion resulting from angular motion, not centrifugal force, is the only factor concerned, since animals on a turntable reacted the same, whether near the center or periphery.

Quite novel experiments in which a canal was severed at its smooth end and then placed in an entirely different plane, still attached to its ampulla, showed no change in the reaction for the particular canal. Thus the horizontal canal, cut and placed in a vertical position, still gave a normal response to horizontal rotation. On the other hand, vertical rotation had no effect. The author concludes from this that motion of the canal fluid is not the source of the ampullary stimulation, certainly a new and interesting concept. His explanation assumes that the primary mechanism is a change in pressure in the vestibular perilymph due to the inertia of the fluid following rotation, this pressure being transmitted to the ampullae till equalized by a flow through the canal which thus act simply as a buffer.

The same explanation is applied to changes on caloric stimulation, which arouse convection currents in the fluid of the vestibule by changes in its specific gravity. A torsion on the ampullary hair cells thus results which is in the line of a given canal according to the position of the head, but there is no effect from fluid motion in a canal itself. This is certainly at variance with

the usually accepted explanation and opens a field for further investigation of the subject.

The author concludes with a discussion of the static functions of the labyrinth in the maintenance of forced positions, of bodily tonus and of nystagmus, and their relation to the vestibular apparatus. A long bibliography is appended.

## Current Literature Department

### ABSTRACTORS

GERARDO M. BALBONI	CHARLES D. LAWRENCE
WILLIAM B. BREED	TRACY MALLORY
LAURENCE D. CHAPIN	HERMAN A. OSGOOD
AUSTIN W. CHEEVER	FRANCIS W. PALFREY
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JOHN S. HODGSON	GEORGE G. SMITH
FRED S. HOPKINS	WILDER TILSTON
CHESTER M. JONES	HENRY R. VIETS

BRYANT D. WETHERELL

### TREATMENT OF MALARIA

NUÑEZ, M. F. (*Amer. Jour. of Trop. Med.*, Vol. III, No. 4, p. 260, 1923), medical director of a large company hospital in Colombia, points out that even in our Southern States where malaria is comparatively a mild disease the mortality from it is about 3 per cent. as compared with a death-rate of 26.6 per cent. for pernicious malaria.

Although Nufez hospital is situated in a locality where malaria is very prevalent and where the more dangerous forms of the disease are common, it has an official malaria mortality of only 0.2 per cent. and a death-rate for pernicious types of only 6 per cent. in a series of thousands of cases.

Nufez describes the treatment employed, stresses the importance of the use of quinine intravenously with the least possible delay as a first measure in the most severe types, follows this with repeated intramuscular injections until the patient recovers sufficiently to take the drug by mouth, and in addition he employs intravenous injections of neo-arsphenamine. Full details of treatment for the different types of malaria are described. [G. C. S.]

### STUDY OF THE BLOOD URIC ACID

IRVINE, H. G., AND STERN, D. (*Arch. Derm. and Syph.*, vol. 8, No. 6, December, 1923), made analyses of the nitrogenous constituents of the blood of 280 patients with skin diseases; excessive uric acid values were found chiefly in eczema and pruritus, up to over 40 per cent. in cases of the former, strikingly less in other skin diseases. The authors recognized that the hyperuricacidemia may be accidental in some cases, but believe that there is a causal relationship in most, as shown by better results through use of a proper dietary regimen. [A. W. C.]

### VERTIGO AND ITS SIGNIFICANCE IN GENERAL MEDICINE

PENTICOST, R. S. (*Canad. M. A. J.*, vol. 13, No. 10, October, 1923), discusses this subject in detail and summarizes as follows: Vertigo is the result of interference with the function of either the vestibular,

ocular, or kinesthetic senses. It varies in character from slight sensation of swimming of the head to a sensation of a definite rotation of the body and of external objects. In some cases, the resulting nausea or vomiting or equilibrium disturbances may be the chief complaint of the patient. The etiological factors are numerous, and, in the differential diagnosis, it is essential that one should obtain a detailed statement from the patient as to the character of the vertigo,—whether influenced by change in position of the body, quick movements of the head, or closure of the eyes. The examination of the patient should include a general physical examination, and, in cases of severe or persistent vertigo, a complete examination of the ear and vestibular apparatus according to the systematized diagnostic methods of Baraby and Jones. [A. W. C.]

### THE ROENTGEN RAY IN THE TREATMENT OF SKIN DISEASES

FOX, H. (*Arch. Derm. and Syph.*, vol. 8, No. 1, January, 1924), presents a paper, the first of a symposium on radiation and phototherapy, read at the June, 1923, meeting of the American Dermatological Association. His conclusions are as follows: With modern apparatus the roentgen ray can be accurately measured either directly by pastilles or indirectly by electrical methods. The indirect method is preferable as it is simpler, more accurate, and eliminates the personal manner. With proper precautions the roentgen ray can now be safely employed in a routine equation. The versatility of the roentgen ray is shown by its favorable action on such varying conditions as inflammatory and functional diseases, granulomas and neoplasms. The roentgen ray is the best local remedy for the routine treatment of acne vulgaris, eczema, seborrheic dermatitis and lichen planus. In rosacea it is unsatisfactory except for its favorable effect on the acne-like lesions. In psoriasis it should be used with great caution and only in selected cases. The brilliant action of the roentgen ray in ringworm and favus of the scalp constitutes one of its greatest achievements. Good results can also be obtained in sycosis and folliculitis. Alone, or in combination with other methods of treatment, the roentgen ray has proved of great value in some of the infectious granulomas. In its ability to check the progress of mycosis fungoides, together with radium, it holds a unique position. In certain diseases characterized by verrucous lesions or eruptions, the roentgen ray is of greater or less value. In plantar warts it is the method of choice. As a palliative in anal and vulvar pruritus, and as a curative agent in localized hyperhidrosis, the roentgen ray is invaluable. Alone, or in conjunction with surgery, it is the best agent for the treatment of keloid. In malignant diseases the roentgen ray has been of the greatest value in the treatment of basal cell epithelioma, the best results being obtained when used in connection with curettage. In lupus erythematosus it is of little or no value, and in hypertrichosis its use is, in general, contraindicated. Among other less common diseases in which the roentgen ray appears to be of decided value should be mentioned lichen nitidus and lingua geographica. The roentgen ray is the most valuable agent we possess for the treatment of skin diseases. [A. W. C.]

### RADIUM IN DERMATOLOGY

FOERSTER, O. H. (*Arch. Derm. and Syph.*, vol. 9, No. 1, January, 1924), followed with a paper on radium. He discusses in detail the types of rays and their method of filtration and their biochemistry. The conditions in which he finds it of the greatest value are basal cell epithelioma, though some cases, especially when treated previously by caustics, electrolysis, etc.,

are later refractory to radium. The prickle-cell type, he feels, should always belong to the surgeon, with radium used as a supplement. Senile and other keratoses, he believes, yield much better to soft beta rays than to x-rays. Some cases of leukoplakia clear up well. Keloids and hypertrophic scars should yield satisfactorily to radium or x-rays. In vascular naevi and cavernous angiomata it is most satisfactory. In port wine marks it is rather unsatisfactory. He has had fair results in some of the fixed type of lupus erythematosus. In lupus vulgaris he finds it useful in some of the small nodules, especially in the ear and nose.

[A. W. C.]

#### ULTRAVIOLET RAY THERAPY IN DERMATOLOGY

BUTLER, J. (*Arch. Derm. and Syph.*, vol. 9, No. 1, January, 1924), presents the third article in this series. The visible light varies from 7000 to 4000 Angstrom units, while the mercury vapor quartz lamp extends the spectrum to 2000 units. Those rays from 4000 to 3000 units are relatively penetrating, while those from 3000 to 2000 units are very feebly penetrating and have considerable bactericidal power. He finds the greatest use for this form of light in lupus vulgaris, especially when accompanied by general exposure of the whole body surface; also in other tuberculous conditions of the skin. He finds this light unsatisfactory in lupus erythematosus. He quotes Oliver as finding it very useful in erythema induratum. He is very enthusiastic about this light in the treatment of acne when given to a point of causing severe and painful burns. He finds the results fair in port wine marks when the water-cooled lamp is used. In chronic ulcers from any cause, and alopecia areata, he finds this of considerable value.

[A. W. C.]

#### THE ERYTHEMA DOSE OF RADIUM

GUY, W. H. AND JACOB, F. M. (*Arch. Derm. and Syph.*, vol. 9, No. 1, January, 1924), present their results of attempts to standardize radium for dermatological use by various methods. The article is a very good one and difficult to review.

[A. W. C.]

#### TUBERCULOUS ULCERATION OF THE INTESTINES

PRITCHARD, J. E. (*Canad. M. A. J.*, vol. 14, No. 1, January, 1924), concludes as follows: The frequent association of intestinal and pulmonary tuberculosis should always be kept in mind. If a patient with pulmonary tuberculosis fails to improve on treatment or a retrogression in general condition is noticed, it must be looked upon as possibly due to a commencing focus elsewhere. The intestine being the organ next to the lungs most frequently involved, should be the first suspected. Especially is this the case if the lung condition cannot be shown to be responsible for the increase of symptoms. Any disturbance of gastro-intestinal function, however slight, in one suffering from pulmonary tuberculosis, should immediately arouse suspicion of intestinal ulceration. Intestinal tuberculosis may be present without producing any evident symptoms. On the other hand, one or two small ulcers may give rise to definite symptoms. General symptoms usually appear before local. A frequent early symptom-complex is satiation, with abdominal discomfort and nausea after meals. The symptoms most constantly found are pain and diarrhoea; these being usually preceded by anorexia, abdominal discomfort and nausea. Constipation, if persistent and obstinate, especially if alternating with diarrhoea, is a very significant symptom. By means of a radiograph of a barium meal and of a barium enema, tuberculous ulceration can be demonstrated in the colon by filling defects and hypermo-

tility. Segmentation of the barium in the small bowel may indicate ulceration. Every suspected case should be investigated by a barium meal. Tubercle bacilli in the stools are of no diagnostic significance unless the sputum is negative or absent. Pus and blood in the stools indicate ulceration, but both may be absent though definite ulceration be present. Free haemorrhage is uncommon. The test for soluble albumin we have found of little help in the diagnosis of ulcerative intestinal tuberculosis. Abdominal signs are comparatively slight, except when the condition is advanced. Rigidity and palpable masses are not common. Slight tenderness, found more often over the caecum than elsewhere, is frequently present. Definite, especially active, pulmonary tuberculosis adds immense weight to every definite symptom and sign of intestinal tuberculosis.

[A. W. C.]

#### RENAL AND SPLENIC LESIONS AS FACTORS IN UPPER ABDOMINAL DISEASE

GRAHAM, R. R. (*Canad. M. A. J.*, vol. 14, No. 1, January, 1924), summarizes as follows: Splenic lesions presenting surgical problems are always associated with splenomegaly. The diagnosis of familial jaundice rests absolutely on the demonstration of increased fragility of the red blood cells. The diagnosis of Banti's disease rest upon the elimination of any other cause for the splenomegaly. Familial jaundice and Banti's splenic anaemia are most favorably influenced by splenectomy. Splenic tumors almost invariably depress the splenic flexure of the colon; practically always cross the middle line if enlarged to any appreciable extent, the direction of the enlargement being downwards and to the right. A renal tumor is resonant in front, but may press so upon the colon as to render it impossible of demonstration, except after inflation of the colon with air. Renal tumors practically never depress the splenic flexure of the colon. Increased frequency of urination must be considered of very serious import, and cause suspicion of a renal lesion until proven otherwise. Hematuria must be considered to be due to renal new growth until proven otherwise. Pain is the result of the passage of calculi and inflammatory debris through the lumen of the ureter, or due to the obstruction of the ureter by them, or to obstruction of the ureter from without, most commonly due to an aberrant renal vessel. Renal tumor and renal tuberculosis may exist in the presence of normal urinary findings, normal renal function, and a normal pyelogram. Carefully taken and analyzed history, combined with a complete and meticulously painstaking physical examination, is the most valuable means of diagnosis, and cannot be supplanted by any single laboratory procedure. Ureteral catheterization to determine differential kidney function should always precede any operation on the kidney.

[A. W. C.]

#### INSULIN TREATMENT IN DIABETES IN CHILDREN

BOYD, G. L. (*Canad. M. A. J.*, vol. 14, No. 1, January, 1924), reports in detail some cases of children treated with insulin, showing charts. She finds that insulin renders it possible to arrest the progress of diabetes in children while allowing them to take an adequate diet to maintain normal health and growth. Successful treatment of complications, such as tuberculosis and acute infections, are possible with the use of insulin. Diabetic coma, treated within forty-eight hours of onset, is cured by insulin.

[A. W. C.]

#### HAEMATUHA—ITS SIGNIFICANCE

MACKENZIE, D. W. (*Canad. M. A. J.*, vol. 14, No. 1, January, 1924), analyzed nearly a thousand cases of

haematuria and shows that over 70 per cent. were caused by calculi, tuberculosis, cancer, or surgical lesions of the kidney, while the other 30 per cent. really needed investigation. He emphasizes the fact that red blood cells have no place in normal urine, and that it is our duty to most carefully work out their source.

[A. W. C.]

#### COMPARATIVE SPIROCHETICIDAL ACTIVITY OF SALTS OF METALS NOT HERETOFORE STUDIED IN THE TREATMENT OF EXPERIMENTAL RABBIT SYPHILIS

KLAUDER, J. A. (*Arch. Derm. and Syph.*, vol. 9, No. 2, February, 1924), previously reported in great detail his studies on the spirocheticidal activity of bismuth in rabbit and human syphilis. He now reports studies on other metals, uranium acetate, barium chloride, germanium oxide and platinum chloride showed no spirocheticidal activity and were very toxic. Gold and thorium have some spirocheticidal activity, and Klauder suggests that the combination of these metals with the arsenicals may enhance the spirocheticidal properties of the latter; the action of antimony is increased by such a combination known as luargol. Available salts of vanadium were too toxic to study their spirocheticidal value.

He places the therapeutic index—the ratio between the therapeutic active dose and the maximum tolerated dose, in experimental syphilis—as one-third for mercuric chloride; arsphenamin, seventeen; potassium tartrobismuthate, five; sodium and potassium tartrobismuthate, in aqueous solution, two and one half; in oil suspension, four; bismuth trioxide, two and two-thirds; potassium antimonyl tartrate, less than one.

[A. W. C.]

#### STERILITY IN THE MALE

PATCH, F. S. (*Canad. M. A. J.*, vol. 14, No. 2, February, 1924), found that out of fifty-one cases in only five could the responsibility for the sterility be attributed to the wife. In one case, responsibility was divided and doubtful. In 45 cases, or 88.2 per cent., the husband was to blame for the unsuccessful issue of the marriage. In 16 cases (31.8 per cent.) the cause was developmental, and in 29 (56.9 per cent.) it was due to misconduct. The high percentage of cases giving a history of gonorrhoea, 49 per cent., and showing evidences of uncured residual infection, 43.1 per cent., is again pointed out. In practically all of these cases marriage was contracted by the husband in the belief that all traces of infection had been eradicated. The above study warrants us to strongly emphasize the important rôle played by the prostate gland, in harboring gonorrheal or post-gonorrheal infection. No patient who is being treated for gonorrhoea should be discharged as cured, or consent for marriage given, until the certainty of the absence of any infection in the prostate is definitely established. In cases where traces of infection in the husband remain, the possibility of latent infection in the wife has to be kept in mind. Injudicious operations, where this latency of infection exists, may light up infection, which may lead to permanently damaging results. Many men with chronic infection in the prostate have several children without their wives showing traces of infection. This does not lessen the dangers of such infection and the possibility of sterility resulting. Their statistics show, that of the 22 cases with prostatovesiculitis, 11 had their semen examined and only 3 showed healthy spermatozoa. Of the cases where a history of gonorrhoea was obtained, 12 had their semen examined. On 2 of these showed health spermatozoa. It is perhaps unwarranted to draw too definite conclusions from this small

number of cases. The study does not take into consideration the sterility produced in the female by gonorrhoea and syphilis. It possesses the virtue, however, of being compiled from individuals in whom the sterility was the cause of special investigation. Two conclusions stand out prominently: The importance of examining thoroughly both husband and wife before responsibility for sterility is definitely fixed, and before carrying out any operative procedure on the woman, and the large percentage of cases in which cured or uncured gonorrheal infection is responsible for male sterility.

[A. W. C.]

#### X-RAY TREATMENT OF PERTUSSIS

STRUTHERS, R. R. (*Canad. M. A. J.*, vol. 14, No. 2, February, 1924), treated 48 cases by single large doses of x-ray instead of by 2 or 3 small ones. Of these, fifteen per cent. can be classed as "prompt cures," that is, the whooping and vomiting entirely ceased within forty-eight hours, usually within twenty-four, and did not return. A slight cough in the morning—not of a spasmodic character—persisted for about two weeks in about one-half of these. The effect was striking. Forty-five per cent. were characterized as "relieved," that is, within four or five days showed considerable amelioration of symptoms; there were less frequent and less severe spasms and cessation of vomiting, and the improved condition could be traced directly to the treatment and was not due to the natural course of the illness. Forty-five per cent. showed no appreciable change in their condition, though we do think that in some of these the duration of the disease was definitely shortened.

[A. W. C.]

#### THE NECESSITY FOR THE INTENSIVE TREATMENT OF SYPHILIS

BAKETEL, H. SHERIDAN (*Amer. Jour. of Syph.*, vol. 8, No. 1, January, 1924), emphasizes the following points: It is the consensus of the opinions of leading syphilologists that more intensive and longer continued treatment of lues is necessary. Too much dependence is placed upon the value of negative findings in blood Wassermanns by many physicians. Some physicians are too prone to pronounce a patient "cured" when he shows a negative blood Wassermann. These men discharge patients without any knowledge of the serologic findings of the spinal fluid. It is essential that a luetic patient be kept under observation as long as he lives. Most observers believe that both arsphenamin and mercury must be used intensely and for a long-continued period to obtain the proper results. Insufficient treatment of the luetic patient results in much human wastage and is an economic burden upon the tax-payer, as the luetic patient of today may be the parietic or tabetic of tomorrow, who, in a large percentage of instances, must be cared for in a public institution.

[A. W. C.]

#### PATIENT WITH DIABETIC DERMATITIS TREATED WITH INSULIN

DAVIS, W. D., and CALHOUN, T. J. (*Arch. Derm. and Syph.*, vol. 9, No. 3, March, 1924), report the case of a woman of 59 with a diabetic dermatitis, especially about the vulva and folds of the body, which had been present off and on for three years and constantly for two more; local and dietetic treatment produced no amelioration, but insulin with proper diet gave a clinical cure in a month.

[A. W. C.]

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### PUBLIC INSTRUCTION

It is a question if many of our younger men—other than those who have read the History of the Massachusetts Medical Society—comprehend the evolution of medical societies; the impulses that gave rise to them; their traditions of service to the profession; the functions they perform, and the places they should fill in our professional lives. Originally developed for mutual improvement, they soon added to this other duties: mutual protection; the advancement of professional standards by legislation; the safeguarding of the public by disciplinary measures within their membership.

These functions have been carried on continuously by devoted groups of members, sensible to the ideals of their profession as fostered by their societies, but with the exceeding growth of the societies the close personal contact has been lost, notwithstanding the subdivision into district societies; and to many of its Fellows the Society means little more than a series of meetings at stated intervals at which technical papers are read and discussed.

There is at present, however, as great a need for the functions of the Society as has ever existed. The legal bars are being lowered to irregular types of practice. Pressure is being brought to bear in favor of low-grade schools

and unscrupulous cults; the opponents of scientific medicine are clamoring to be heard, and the layman, confused as he must naturally be, is in sore need of guidance. In such an emergency it must be remembered that membership in the State Society constitutes a stamp of approval put upon a man's character and attainments by the reputable members of his profession.

New activities also are being occasionally developed for the Society as the scope of medicine broadens. Public health has become something more than a will-o'-the-wisp of local boards, and a public health committee functions in the Society. Industrial hygiene, child hygiene and mental hygiene are but a few of the subdivisions of Hygiene, which is Preventive Medicine. The periodic health examination has become almost a slogan, and a new committee, on public instruction, has been found necessary.

The great duty, after all, that we owe to the public is the prolongation of its individual lives, as far as in us lies, in a state of health compatible with happiness and usefulness. This, we hope we may say, we have all been attempting to perform, effectively or ineffectively, openly or obscurely, but always individually. It is in comparatively recent years that we have undertaken to enlist the services of the public itself, to assure it of our good faith, and to ask for its cooperation. After centuries of medical mysticism it is not always easy to talk an understandable language, to instruct where instruction has been lacking, to inspire faith and to be believed.

The work is essential and it must be carried on, and in no way can it be done more effectively than by our medical societies, made up of the practitioners whom, as individuals, the public has come largely to trust. A notable start is being made by our district societies in sponsoring public meetings for medical instruction. The meeting held in Worcester on April 11 was an excellent opening; the meeting to be held on April 25 in East Boston on the subject of diphtheria prevention will be a landmark in the history of the Suffolk District Society.

### OBSTETRIC PROBLEMS

In a paper published in the *American Journal of Obstetrics and Gynecology* of March, 1924, Dr. George Clark Mosher emphasizes the contentions made by many writers and speakers in recent years, that some medical responsibilities have been inadequately met in dealing with the dangers of pregnancy and childbirth.

He states that the United States stands fourteenth among the so-called civilized nations in the loss of mothers, being exceeded only by

Spain and Belgium, and that puerperal septicemia and eclampsia claim over one-half of all the patients who die. Parenthetically it may be said that the Chairman of the Section on Obstetrics of the Massachusetts Medical Society may properly object to the use of the term "eclampsia" because it signifies symptoms rather than a disease, but the term is generally used and its significance recognized. Dr. Joseph B. DeLee and others contend that the toxemia of pregnancy is preventable to a large degree, based on the record of forty thousand cases of labor in the Chicago Lying-In Hospital without a death from this cause.

Dr. James E. Davis is quoted as claiming that the rich and the very poor are the best obstetric risks because both classes have expert care since more and more of the representatives of these classes enter hospitals, whereas the great problem lies in the management of patients in the so-called middle class under the care of general practitioners who are overburdened with work and who, therefore, cannot give the requisite time and attention to the abnormal cases.

Dr. Newell of Boston is quoted as putting a certain measure of blame on the younger surgeons who, without adequate experience in obstetrics, resort to Caesarean section in difficult labors.

Mortality statistics present evidence that women are dying of sepsis and toxemia of pregnancy. It is believed that the best equipped men can reduce the hazards, for both septicemia and the toxemias are certainly preventable to some extent, and many believe to a very large extent, and that in proportion to the more general employment of those practitioners whose training and experience fits them to give the most intelligent and painstaking care.

Even with this contention, in all fairness it must be said that many general practitioners have had services in lying-in hospitals, have continued to pay careful attention to the demands of the pregnant and parturient woman, and are loyal to the interests of the patient. These men should not be condemned because they are general practitioners, but the criticism should be directed to the doctor who makes hurried calls, unnecessarily frequent examinations and needless or unwise employment of operative procedures.

Our section on obstetrics is functioning. Its last report shows that it recognizes the importance of careful attention to all of the principles of obstetric practice and is giving in its reports and comments instruction which will raise the standards of the general practitioner who has been denied the opportunity for the best training. The responsibilities rest on those men who do not profit by the freely given advice of those who are trying to elevate the practice of obstetrics. There will continue to be practitioners in all departments of medicine who by reason

of inherent weaknesses or inadequate training will bring reproach on medicine, but the proportion is becoming steadily smaller. We may confidently expect to know before long, through the work of our section, where the blame lies, and when the facts are made clear the campaign will concentrate on the real underlying causes of maternal mortality and morbidity.

The analysis of puerperal deaths is the first and perhaps most important consideration, but the field may be extended through efforts to learn of the frequency and degree of morbidity following parturition, for, in addition to the calamity of death, the suffering and invalidism following childbirth certainly call for careful consideration. A life saved is a conquest. The prevention of sterility and physical and mental incapacity is also of major importance. The necessity for corrective operations and the loss of maternal efficiency are great burdens on society.

The people may rightfully expect that the medical profession will meet its responsibilities. The leadership of our section of obstetrics and gynecology will be endorsed by the doctors of Massachusetts.

#### CHLORIN AS A THERAPEUTIC AGENT

EDWARD B. VEDDER, Lieutenant-Colonel, Medical Corps, and Harold P. Sawyer, Captain, Medical Corps, United States Army, present some interesting observations on the use of chlorin in the *Journal of the American Medical Association*, 82:764, March 8, 1924.

It has been known that employees of plants using or producing chlorin are relatively free from upper respiratory infections, and it is stated that Küster, in 1915, used it successfully to clear up meningococcus and diphtheria carriers. Moreover, during the influenza epidemic operatives of the chlorin plant at the Edgewood Arsenal were strikingly spared from the disease, and the same was observed among students at the University of Arkansas who were subjected to chlorin in unknown concentration.

The investigations of Vedder and Sawyer first showed that chlorin had a definite sterilizing effect on agar plates of various common organisms of the upper respiratory tract. It was furthermore shown that the mucous membrane of the upper respiratory tract could be nearly sterilized by an hour's inhalation of the gas at a concentration of 0.02 mg. per liter of air. Any concentration greater than this is irritating, and a concentration of 3.00 mg. per liter is lethal within thirty minutes.

An air-tight chamber, 13 by 13 by 10 feet, was next constructed, in which five or six people could sit comfortably, and through which 42,000 liters of gas-air mixture could be passed in one minute. A concentration of approximately 0.015 mg. per liter was employed, as the orig-

inal concentration of 0.02 mg. was found too irritating for some persons. Most of the patients received one treatment of an hour's duration; a few received second or third treatments on successive days.

On the whole, the effects were striking. Acute and chronic bronchitis, acute laryngitis, whooping cough and coryza were the infections receiving the most marked benefit. Many of these cases were cured after one treatment. Beginning rhinitis could generally be aborted. "Colds in the head" responded less favorably to the treatment on account of the congestion of the mucous linings, but after shrinking with epinephrin better results were obtained. Of course the superficial infections received the greatest amount of benefit; it was not to be expected that deep-seated infections, such as those existing in tonsillar crypts, would be accessible to the gas. Influenza cases were hard to find and diagnosticate with certainty, and whooping cough cases could not be found in sufficient numbers to form a telling group, but the results were marvelous in nine cases that were treated.

The impracticability of the chlorin chamber is acknowledged, but it is believed possible by these investigators to "chlorinate" office waiting-rooms, and a machine has, in fact, been designed that will answer this purpose and that will also be available for sick chamber use. It is quite possible that an important and valuable discovery has been made by Vedder and Sawyer. All new discoveries, however, should be discriminatingly used, and it is probable that we are still some time removed from the practical and satisfactory municipal "Inhaloria" where treatments may be given at six cents a person, that have been heralded by the daily press.

#### AUTOMOBILE ACCIDENTS

MANY suggestions were made at the recent conference on accident prevention in motor vehicle traffic arranged by Yale University and Connecticut under the patronage of the Hartley Foundation.

One is the proposal to have the legal procedures conducted by a traffic court which might act more efficiently as a specialized department of the courts and relieve the ordinary municipal courts of a large amount of work.

Another is a careful analysis of the personal condition of the operators of motor vehicles.

These arguments are certainly logical, for the motor vehicle has become a definite menace to life and its possibilities for harm may increase through added congestion of our highways.

Probably most physicians are aware of mental and physical defects among operators of

motor cars that ought to debar such persons from driving automobiles.

Fatalities and lesser injuries will occur and it is the duty of society to use all possible means to bring them to the irreducible minimum.

The careful owner of a car as well as others should have protection, for it often happens that an unqualified person may involve the most efficient operator in an accident causing expense and physical harm, and imposing the responsibility of clearing him from the charge of inefficiency.

Multiplicity of laws and regulations are deplorable, but humanity and economics will require of all, yielding to inevitable restrictions.

#### Miscellany

##### THE NEEDS OF THE BOSTON LYING-IN HOSPITAL

The Lying-in closed 1923 with a deficit for the year and had to call on capital. So, for economy, no report, excepting this very brief statement, is being now distributed. However, it is important that all, who for any reason wish to look closely, should have full information. The treasurer will gladly forward the annual report to anyone who wishes it.

In hospital and out, our work increases. To quote a few figures: In 1922, 929 patients were admitted and 834 babies born there. In 1923, 1338 patients and 1088 babies. More patients and more training inside, more patients and more follow-up work in the clinics. The patients who can afford to pay, do pay; but by far the greater portion pay only partially, or pay not at all. Our most urgent need is that of money for running expenses. Neither Commonwealth nor city has ever aided. The services of all connected with the hospital (except those engaged therein permanently) are given. There are no outside expenses, excepting for a little clerical work.

The hospital spent last year about \$122,000. Less than one-seventh came from its investment income. About one-fifth was given by the public. The rest the patients paid, or it was taken from capital. That the chief support of the hospital is payment by patients shows the value and need of the service. But, also, it clearly shows that there is constant need of extending the work among the worthy poor. The hospital maintains its high standing in medicine and surgery. It is aiding education and is serving the public. Is it as much of a charity as, with its facilities, it would be, if it had more funds? Larger and more donations are needed.

To give prenatal care to a patient, take her into the hospital for confinement, and keep her there for convalescence the minimum time, two weeks, costs us about \$75. Last year about one-

third of this came from investment income or from donations received. So a new gift of \$50, or an increase of a subscription by \$50, should bring in free some worthy poor woman, or of \$25 should relieve her of half the charge. This shows how new gifts and increases of old gifts will help.

The trustees are deeply grateful to all of the many friends of the hospital without whose help the good work could not have been done. They ask that donations be continued, and, if possible, increased, and that, in drawing wills, the needs of the hospital, its long service, and the work it must continue into the future be remembered.

Contributions may be sent to James R. Hooper, Treasurer, 87 Milk Street, Boston, Mass. Bequests should be to "Boston Lying-in Hospital, a Massachusetts corporation."

BOARD OF TRUSTEES,

Boston Lying-in Hospital.

Boston, April, 1924.

#### THE DANGERS OF CHILDBIRTH

The *American Journal of Obstetrics and Gynecology* publishes a paper by Asa B. Davis, M.D., F.A.C.S., New York, in the April, 1924, issue, under the title of "Extraperitoneal Caesarean Section." Among the conclusions the author states:

"1. The sooner the general public, both lay and medical, come to the realization that reproduction is potentially, and in 10 per cent. of the cases actually, a pathologic process, and act accordingly, the sooner childbed will be removed from the position which it now holds in this country as, next to tuberculosis, the cause of the greatest number of deaths.

"2. Every pregnant woman should be under competent obstetric care and instruction soon after conception, through gestation, labor and the puerperium, which should continue until everything possible has been done to restore her to her normal activities of life in good condition. Ninety per cent. of pregnant women should be under careful observation, but aside from a few simple precautions and instructions, as long as they are progressing favorably, should be treated to a very generous share of masterful letting alone. It should always be kept in mind that some from this larger class have a way of moving, gradually or abruptly, over into the abnormal class.

"3. The emergency obstetric case should disappear. It is this type of case which magnifies the morbidity and mortality of obstetric records. So long as such cases do occur, the well-equipped maternity hospital should receive them, even though they are apparently about to die. With such aid, some of the seemingly hopeless cases

will recover. There should be some way of checking up the activities of the doctor who is repeatedly showing bad results. Such an one should be rather actively encouraged to direct his energies along less dangerous lines.

"4. We can often see more by looking backward. We would accomplish more, with better results, by looking ahead. Preventive obstetrics should be a widely broadcasted slogan. The public should be taught to be more critical of obstetric result, and not to so complacently accept dreadful injuries to mother and child, or death of one or both, as the Will of an over-worked Providence. Extraperitoneal Caesarean section will save some lives that would otherwise be lost. Classical Caesarean would have saved but few of the cases reported."

The data being collected and analyzed by the Section of Obstetrics and Gynecology of the Massachusetts Medical Society will soon show us the situation in Massachusetts.

#### CANCER

The Message of Dr. Joseph Colt Bloodgood and the Maryland Cancer Commission

To the Members of the New York Committee of the American Society for the Control of Cancer:

My experience with the diagnosis and treatment of cancer covers a period of almost thirty-one years and can be easily divided into four decades. The effect of the absence of any educational effort is most marked in the first decade up to 1900 and continued to almost 1910. The educational effort began in 1910. The effects were seen within a few years. They are most marked since 1920.

When we compare the results of our records in the first ten years up to 1900 with those since 1920, we may summarize them as follows:

These figures come from the Surgical Pathological Laboratory of the Johns Hopkins Hospital, where we have 40,000 records. All the cases treated in the Surgical Service of Johns Hopkins Hospital and of St. Agnes Hospital in Baltimore, and during the past five to eight years, about one-third of the material has been received from outside sources. But from the very beginning there has been a large amount of material with good records received from physicians and hospitals throughout this country. Our records therefore pretty clearly show the falling curve of inoperability and the rising curve of five-year apparent cures and longer permanent cures.

This improvement is most marked in cancer of the mouth, skin and breast. It is beginning to be marked in cancer of the cervix. There is very little improvement in cancer of the stomach and colon.

**Breast.** In the first ten years inoperable cases registered almost 40 per cent. The per cent. of cancer as compared with benign lesions was almost 80 per cent. The per cent. of women seeking examination in whom nothing definite was found in the breast was less than one per cent. The per cent. of five-year cures in operable cases registered about 20 per cent.

In my own clinic since 1920 the number of women seeking examination at which nothing definite is found has risen from less than one per cent. to more than 50 per cent. Inoperable cases have fallen from more than 40 to 5 per cent., while the per cent. of cancer has fallen from 80 to 50 per cent. These changes are associated with the one controllable factor—the duration of the lump known to the patient. In the first ten years the average duration of the lump was almost two years. Since 1920 it has fallen to less than nine months. Our records show that women need no instruction as to the warning of trouble with the breast. With rare exceptions they are warned in time—they feel the lump, observe the retracted nipple, or the dimpled skin, but they need education to act in time.

**Tongue.** In the first ten years but one patient sought the advice of the clinic for a lesion of the tongue which was not cancer—about 3 per cent. Today, in my own clinic more than 70 per cent. come under observation with leukoplakia, areas of irritation, ulceration, ragged, dirty teeth—that is, in the stage before cancer has developed, and a period in which cancer can be prevented by the removal of the irritating factors—tobacco and ragged, dirty teeth.

This is the most remarkable effect of the educational effort. In addition, inoperable cases have decreased, and early cancer of the tongue with a probable cure of almost 70 per cent. has increased.

Up to the present time the educational efforts have been carried on by a very small minority. There seems no difficulty in getting space in the daily press or magazines, but the efforts are more or less sporadic. It does not seem to be a question of writing the message to the people so it will be read—it seems to be largely a question of multiplying the number in the medical and dental professions who will aid in the teaching efforts, and of increasing their efficiency in this new and very essential part of the practice of medicine.

To eradicate disease such as cancer there must be a very efficient organization. Some diseases can be eliminated by providing good water and food; others can be prevented or cured by a serum. But there is no treatment that offers much for late cancer, and there seems to be no way of getting cancer under treatment in its earliest stages except by getting to the people a definite, clear-cut message. We must also remember that cancer of the mouth and of the

skin, and perhaps cancer of the cervix, are preventable diseases. A cancer of the breast without involvement of the axilla offers 70 per cent. chances of a cure, while with the involvement of the axilla this falls to 20 per cent. The duration of the indigestion or discomfort known to the individual in cancer of the colon and stomach is far too long before the thorough examination with the x-rays. My recent evidence shows that many cancers of the colon originate in benign polypoid growths. These growths give definite symptoms in the benign stage and can be felt with the finger, can be seen with the proctoscope, or outlined with the x-rays. In this stage the only failure to cure would be due to operative mortality.

It is, therefore, the obligation and opportunity of members of the medical profession who are also members of the Society for the Control of Cancer to bring these life-saving facts to their own patients, their own colleagues and their own communities.

Sincerely yours,  
JOSEPH COLT BLOODGOOD.

Baltimore, Md.

#### A MESSAGE TO THE MEMBERS OF THE MEDICAL AND DENTAL PROFESSIONS

Remember, we ourselves, members of our family, patients under our care daily, and the great mass of people who have confidence in the medical profession and who seek their advice, although all these are warned in time, we ourselves and they need special information to act in time.

Medical science today offers most when applied in the preventive stage of disease.

Members of the medical and dental professions must think in terms of preventive medicine. They must not wait for their patients to come to them, but they must go to their patients and tell when to come and why.

We all understand the methods of protection against disease by the control of the water and milk supply. The medical profession is beginning to use, and the public to appreciate, protection against typhoid and diphtheria by vaccination. There are many diseases—cancer is one of them—the prevention and cure of which cannot be accomplished through the health department by its control of water and food, nor through the medical profession by any known method of vaccination.

The prevention and cure of cancer depends upon the injection of a new idea into the minds of the public by the medical and dental professions.

This idea is that correct information in regard to cancer and some other diseases often leads to its prevention, or to a larger probability of a permanent cure.

For example: Women will, with the rarest exceptions, feel a lump in the breast in time,

but they require correct information to act in time. As cancer of the mouth is directly due to the continuous irritation by tobacco in any form, and by ragged, dirty teeth, its prevention is simply a question of getting these facts before the public and teaching them oral cleanliness.

We have had a large experience in bringing this message to the public and to the medical and dental professions. The greater the interest exhibited by the medical and dental professions in a given locality, the larger are the public audiences and the space given to correct information in the public press. You all know the influence of public opinion.

The education of a community on preventive medicine and all matters relating to its health is a task largely of the medical and dental professions. They must learn that they can accomplish far better results with their art and science when they teach the public to act in time. The presence, therefore, of a large number of members of the two professions at the clinic and at the public meetings will be most helpful.

We are making, therefore, a personal appeal to you as members of the medical and dental professions to take an interest in the work of the American Society for the Control of Cancer. This national association, now with a budget of almost \$60,000, and a new full-time director, Dr. George A. Soper, is making a national campaign to bring the life-saving facts before the people of this country. The national association needs your help. Your own patients need your teaching help. If you have late cancer in your community, or any other organic disease in its late stages, it is an indication that the medical profession is not teaching the community.

#### MARYLAND CANCER COMMITTEE.

April 1, 1924.

#### CHANGES IN THE MANAGEMENT OF THE VETERANS BUREAU

Dr. Edgar O. Crossman, manager of District No. 1, United States Veterans Bureau, has been appointed acting medical director, in charge of the Medical Division, according to an announcement made recently by General Frank T. Hines, director of the Bureau.

Dr. Crossman has been serving as manager of the First District, comprising Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, since April 2, 1923, succeeding Colonel John F. J. Herbert. As acting medical director, with headquarters at Washington, he succeeds Dr. L. B. Rogers, who recently was placed in charge of United States Veterans' Hospital No. 41, New Haven, Conn.

At the same time, Director Hines announced the appointment of Colonel Elon F. Tandy as

the new manager of District No. 1. Colonel Tandy has been serving as executive officer, and district inspector of that district since his appointment last April.

To succeed Colonel Tandy as executive officer and district inspector, General Hines announced the appointment of Colonel William E. Sullivan of Nashua, N. H. During the war he served as lieutenant-colonel in the 161st Infantry.

Dr. Crossman is a well-known specialist on mental diseases, and General Hines expressed his satisfaction in being able to make a greater use of his medical skill in the new position.

"His work as district manager has been admirable and it is only because of his personal desire to associate himself more closely with medical work that I have made the change," said General Hines. "He should serve the disabled veteran well in his new capacity," he added.

#### MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

At the annual meeting held April 16, 1924, the following named officers were elected:

President, Eugene A. Darling, Cambridge; vice-president, George L. West, Newton; secretary, John Houghton Taylor, Cambridge; treasurer, Edward Mellus, Newton; commissioner of trials, Arthur G. Griffin, Malden.

Member of the nominating committee of the Massachusetts Medical Society, Edmund H. Stevens, Cambridge; alternate, Walter E. Fernald, Waverley.

Censors: James Glass, Framingham; John P. Nelligan, Cambridge; Herbert E. Buffum, Somerville; Charles F. K. Bean, Medford; Conrad Bell, Waltham.

Orator, Fresenius Van Nuys, Weston.

Councillors: District No. 1—Cambridge: Edmund H. Stevens, James W. Sever, Willard A. Putnam, Sherman R. Lancaster, Frederic B. M. Cady, A. C. Potter, Hollis Seavey.

District No. 2—Charlestown, Everett, Malden: John Duff, Clarence H. Staples, Henry J. Keane, Fritz Walter Gay.

District No. 3—Medford, Somerville: Charles E. Mongan, Warren D. Ruston, Frederick G. Smith, Allan Blake, Walter T. Burke.

District No. 4—Arlington, Belmont, Concord, Lexington, Waltham, Watertown: Walter E. Fernald, Charles B. Fuller, Harold R. Webb, W. H. Barnes.

District No. 5—Brighton, Newton: G. L. West, Edward A. Andrews, Francis G. Curtis, Lewis H. Jack, Irving J. Fisher, Edward Mellus, Walter H. Crosby.

District No. 6—Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn: James Glass, Dana F. Cummings.

District No. 7—Hudson, Lincoln, Marlborough, Maynard, Stow, Sudbury, Wayland, Weston: Fresenius Van Nuy.

Auditors: Charles F. Maguire, Somerville; Arthur N. Makechnie, Cambridge; Alvah Cochran Cummings, Newton.

Committee: Daniel L. Healey, Framingham, chairman; George P. Cogswell, Cambridge; John A. McLean, Somerville; Michael F. Burke, Natick; Frank Raymond Stubbs, Newton; Charles Fenner Atwood, Arlington; Alton Atwell Jackson, Everett.

### WORCESTER DISTRICT MEDICAL SOCIETY

Approximately 1100 people attended the largest public meeting that the Worcester District Medical Society has arranged, Friday evening, April 11, at the High School of Commerce Auditorium. It was a success in every way, and the credit is due to the president, Dr. A. W. Marsh, and his able committee, who showed themselves to be of State Society presidential timber. The subject of the meeting was "Preventive Medicine."

President Marsh introduced Mayor O'Hara, who spoke of the pride that he had in the work of the City Department of Public Health and said that it was worth more than it cost.

Governor Channing Cox gave an address on the importance of the work of the physician in preventive medicine and showed by statistics that as a result of their efforts thirteen years had been added to the length of the life of the average person. He commended the society for its efforts in arranging the meeting for the purpose of stimulating the people to protect themselves.

Dr. George E. Tucker of Hartford, Conn., gave an eloquent oration on the life of Pasteur, tracing the development of modern preventive medicine.

Assistant Surgeon-General Arthur Stimson was the last speaker. He traced preventive medicine from its earliest stages and concluded with an appeal for active coöperation with public health officials.

Dr. A. C. Gatchell has moved his office to 28 Pleasant Street, Worcester.

Dr. Earl E. Fipphen has opened an office at 21 High Street, Worcester.

Dr. Samuel C. Gwynne has returned from his service in the United States army and has opened an office at 9 Elm Street, Worcester. His practice will be limited to obstetrics and medical gynecology.

### News Items

REMOVALS.—Dr. William E. Faulkner has moved from Boston to Keene, N. H.

Dr. William James McDonald now has an office at 395 Commonwealth Avenue, Boston.

Dr. Harold R. Green has moved from 72 Main Street to 20 Dean Avenue, Franklin.

Dr. John N. Coolidge has moved from New York City to Ottawa, Ont., Canada, 122 Bank Street.

Dr. Michael A. Gangemi now has his office at 98 Summer Street, North Adams.

Dr. Frank E. Rowe has removed his office from 221 Broadway to 61 Pleasant Street (near City Hall), Revere, Mass.

DR. ROBERT B. OSGOOD read a paper before the New York Academy, April 17. Title: A Brief Survey of the Teaching of Orthopedic Surgery in Medical Schools.

HARVARD MEDICAL SOCIETY.—The meeting was held in the Peter Bent Brigham Hospital Amphitheatre, Tuesday evening, April 22, at 8.15 o'clock. Program: The Function of the Anterior Lobe of the Hypophysis, Professor Herbert M. Evans, University of California.

### Correspondence

#### LONDON LETTER

[From Our Own Correspondent]

March 1, 1924.

Figures issued recently by the Registrar-General of England and Wales, with regard to the public health of the past year, bear out the conclusions derived from a study of the quarterly returns. The tendency of births to decline has culminated in the lowest annual rate on record, excluding the war years 1917-19. Nevertheless, the increase in population was some 30,000 in excess of that recorded in each of the five preceding years. This is due to the fact that not only the birth rate but also the death rate and infantile mortality were the lowest on record. Therefore, in spite of the fewer births, the population has continued to increase at a satisfactory rate because of the efforts of the medical profession and the effects of public health administration in saving and prolonging life. The figures demonstrated that when influenza is not prevalent, the "killing diseases" in London are, in order of precedence, heart disease, respiratory disease, cancer, consumption, diseases of the gastro-intestinal tract, and apoplexy; the causes next in order being old age and accident. When, however, influenza is prevalent it becomes, because of its effect on diseases of respiration, the most outstanding menace of the year, with the result that variations in the death rate are largely a reflection of variations in the prevalence of influenza. Contrary to general belief, influenza appears to have but little influence on heart disease in the same way as cancer; the death rate from heart disease does not seem to vary to any appreciable extent, but remains fairly constant. While the health statistics are, so far as

health itself is concerned, satisfactory, they give rise to issues not capable of easy solution. The population is increasing at a faster rate than in pre-war days, and yet the facilities are more inadequate for maintaining it in these isles. Moreover, with new preventive measures coming into force and with more effective means for preserving infant and child life and for lengthening the lives of adults and the old, the problem continues to present further difficulties. There must necessarily be a limit to the number of people it is possible to maintain in the British Isles, though the various schools of political economists differ greatly as to when this limit will be reached, and to some extent it is dependent on fluctuating factors. Overseas settlement is proceeding slowly; yet it seems probable that it is in this direction we must look to ensure a livelihood in the future for some of the infants whose lives are, fortunately, being saved. It appears a cruel thing to say, but it is true from the viewpoint of the material welfare of the race as a whole, that saving life after a certain age is a drawback rather than a benefit. Nature's law, or so-called law, of the survival of the fittest, is probably the best for the race, although not for the individual. Again, emigration is by no means a panacea for over-population; the British Dominions, as the United States, will admit only the best,—the ones, in fact, that European countries are anxious to retain. Emigration of this kind would soon leave such a deteriorated population that the descent would become more and more rapid. Therefore, Great Britain is decidedly quite on the horns of a dilemma; indeed, the question of over-population is becoming a matter of life or death.

Since the appeal on behalf of the British Empire Cancer Campaign was issued in May last, the subscriptions received have totalled about £70,000 (\$350,000). Much more money is needed, as investigation of cancer is so complicated and widespread that a million pounds (\$5,000,000) might be easily and usefully expended. However, it is not intended to hold up the work until any specified sum has been subscribed. The committee therefore propose to begin applying its funds, as they are received, to the fostering of research. Following a conference between representatives of the Royal Society, the Medical Research Council, and the British Empire Cancer Campaign, a scientific advisory committee has been appointed to devise means of research and to advise and report upon all questions relating to research, including the allotment and application of funds. It will also be closely concerned in maintaining communication between research workers in all parts of the world, making their results and discoveries mutually available, and in keeping the public informed of the nature of the problems to be solved and the progress made towards their solution. Should money be available, there is no branch of research which will be neglected and the aims of the Cancer Campaign, to coördinate and combine all research work on cancer, to prevent overlapping, and to fill up gaps where now there are few or no workers, will be fulfilled. As a result of these efforts it is hoped, for the benefit of humanity, that mastery over the terrible scourge may ultimately be obtained.

Mr. Noel Buxton, newly appointed Minister for Agriculture, stated in the House of Commons on February 29 that the total number of outbreaks of foot and mouth disease, up to and including February 27, was 2759, involving an estimated gross sum in compensation of £2,988,000 (\$12,948,000). He was glad to be able to announce that the names of the members of the Committee of Research, who are going to arrange for careful investigations into the cause of the disease, are: Sir Charles Sherrington, F.R.S., president of the Royal Society (chairman); Dr. J. A. Arkwright, of the Lister Institute of Preventive Medicine; Dr. W. Bulloch, F.R.S., professor

of bacteriology; Professor J. B. Buxton, director Institute for Research in Animal Pathology, Cambridge University; Captain S. R. Douglas, F.R.S., director of the Bacteriology Department, National Institute for Medical Research; Mr. S. H. Gaiger, F.R.C.V.S., Animals' Diseases Research Association, Glasgow; Sir John McFadyen, principal and professor of comparative pathology, Royal Veterinary College; Professor C. J. Martin, F.R.S., director of the Lister Institute of Preventive Medicine; Professor Robert Muir, F.R.S., professor of pathology, University of Glasgow; Sir Stewart Stockman, chief veterinary officer, Ministry of Agriculture. The terms of reference are: "To initiate, direct and conduct investigations into foot and mouth disease, either in Great Britain or elsewhere, with the view of discovering means whereby the invasion of the disease may be rendered less harmful to agriculture." Outbreaks of foot and mouth disease are still occurring, and in view of the need for immediate preventive action the Central Council of Milk Recording Societies, which met in London on February 28, brought forward the following motion: That the Central Council strongly urges the Minister of Agriculture to at once secure the help of the foremost bacteriologists and specialists in the production of vaccines and serums, to endeavor to procure some preventive treatment against foot and mouth disease. The Council believe that it is proposed to consult with the specialists in committee, but the Council feel that the national loss occurring is so great that nothing less than the most active direct research work will meet the dire necessities of the case. The Council suggest that such research work should be carried on in at least three different centers, collaborating, so that each center may be worked on a different line of research. The motion was carried. It is felt, and probably rightly so, that the Government have been dilatory in encouraging research into animal diseases, that is, of domestic animals. It seems likely that if financial assistance had been given to a series of investigations into the causes of foot and mouth disease, which were undertaken a few years ago, the cause or causes might have been discovered and effective preventive methods introduced, thereby saving immense sums of money and loss to the farmers. The practical agriculturists are distrustful of Parliamentary committees. They may be like the mills of God,—grind slowly but exceeding small,—but they are too slow. This is a situation which calls for prompt action. However, the omens appear propitious for the future of comparative pathology. Cambridge University has a department, and other universities and medical schools are following suit. It is beginning to be understood that from the coöperation of medical and veterinary research investigating into human and animal diseases, discoveries may and will be made of the utmost benefit to the human race.

It has not been long before the National Anti-vaccination League have sent a deputation to the new Minister of Health to protest against the Vaccination Acts and to express the hope that in his official capacity he will assist the opponents of these Acts. As might be expected, Mr. Wheatley, an avowed Socialist and who, while still a private member of society, has on several occasions spoken against compulsory vaccination, received the deputation sympathetically, although, of course, not committing himself to any particular course of action. The medical staff of the Ministry of Health must find themselves in an embarrassing position, under a Minister whose policy on many points must be altogether opposed to their views. However, it is too early yet to forecast or to be pessimistic. It certainly is one of the most glaring ironies of fate that vaccination, which has proved itself of such avail, should have fallen into

disrepute with the working section of the public in the country in which it was discovered.

Little more than a year ago the Rt. Hon. John Wheatley, Minister of Health, was to all intents and purposes unknown outside Glasgow and its neighborhood. He entered Parliament towards the close of 1922 as one of the group of Scottish Socialists whose headquarters is the Clydeside region. Mr. Wheatley is a remarkably able man who has established already, as a member of the Government, a considerable Parliamentary reputation. But his Socialistic views and ability combined may render him a very undesirable and perhaps dangerous Minister of Health,—that is, from the health of the people point of view. He is certain to do his best, irrespective of cost, to improve housing conditions; it is a question he understands and will mainly benefit the Labor Party, which he represents. But on purely medical matters, as vaccination, research and so on, of which his constituents are ignorant, little assistance can be hoped for from Mr. Wheatley. Labor Party will do nothing for medical science because it does not give quick results, and the results which it does give are not understood by the masses; and what the workman is wholly ignorant of he fears and will have nothing to do with. Therefore, while Mr. Wheatley may be extremely able and a capable juggler with words, that is, an adroit debater, his policy will be the policy of the Labor Party and of the Socialistic element of that party, inimical to medical science and all that it stands for. Mr. Wheatley was born on Clydeside, of Irish parentage, and regards himself as a child of the slums of the Lanarkshire coal fields. Up to the age of 22 he worked in the coal mines; now he is in business in Glasgow as a publisher. For two years he was a member of the Lanarkshire County Council, but it was on the Glasgow City Council that he made his name in municipal life. He was the founder of the Roman Catholic Socialist Society.

Dr. A. Louise McIlroy, who is the director of the Obstetrical and Gynecological Unit at the Women's Medical School and Royal Free Hospital, London, and professor of gynecology in the University of London, has just had published a book on Constantinople. Dr. McIlroy served throughout the war. She was first with the Scottish Medical Women's Unit under the late Dr. Eiric Inglis in the Balkan States, and took part in the disastrous retreat of the gallant Serbian army. Dr. McIlroy was then in charge of a surgical hospital in Salonika, and during the occupation of Constantinople by the allied armies, 1919-20, was in charge of a hospital in that city. It was there that she took notes upon which "From a Balcony on the Bosphorus" is based, and it deals with conditions as they presented themselves to her. The book is a combination of keen observation, intelligent insight colored by a glowing imagination, appropriate to a description of, perhaps, on the whole, the most beautiful city of the world, with the most picturesque population, floating and otherwise. Dr. McIlroy has caught the mystery of the East; Constantinople is the gateway from Europe to Asia, and has made a fascinating word picture of the enchanted city. The book, which is written with great charm of style, shows that deep special knowledge does not preclude the possession of high literary gifts. It should be read.

#### DEATH NOTICES

DR. SERIAH STEVENS of Roslindale died at his home April 17, 1924, at the age of 72. He was born in Sidney, Me., October 15, 1851, graduated from Bowdoin Medical School in the class of 1882, and settled in practice in Marshfield, Mass. In 1890 he moved to

Cambridge and in 1892 to Boston. He joined the Massachusetts Medical Society in 1898.

Dr. Stevens is survived by his widow, Ruey Bartlett Stevens, who is a graduate of Tufts College Medical School, class of 1893, and who practised medicine before her marriage.

DR. CHARLES E. BRUCE, a practising surgeon, hospital executive and National Guard officer in New York for many years, died April 18 at his home in Boston, of a complication of heart and kidney ailments. His wife, who was Emma Worden of Battleboro, Vt., died in 1877, and he is survived by a son, Charles A. Bruce of New York. Services were held at 2 o'clock last Tuesday afternoon in the Broadway Tabernacle, Fifty-sixth Street and Broadway, New York.

Dr. Bruce was born in Brooklyn on November 15, 1851, and after graduating from Bellevue Medical College in 1873 spent two years as medical officer on the old school ship *Mercury*. He was for years president of the Medical and Work House Hospital and a member of the New York Board of Education. In 1916 he retired from general practice and became head of the medical department of the Royal Arcanum, a position he held at the time of his death.

In 1894 Dr. Bruce joined the old Eighth Regiment of the New York National Guard, in which for sixteen years he held the rank of major. During the World War he was recommissioned a major in the Medical Corps of the National Guard and served with the First Field Artillery until the armistice.

DR. HARRY WASHINGTON IRVING, a Fellow of the Massachusetts Medical Society, died suddenly in Boston, April 17, 1924, at the age of 44. He was a graduate of Tufts College Medical School in 1906.

#### NOTICES

##### AMERICAN CLIMATOLOGICAL AND CLINICAL ASSOCIATION

The forty-first annual meeting will be held at the Hotel Ambassador, Atlantic City, N. J., May 1, 2, 3, 1924.

President: Gordon Wilson, Baltimore, Md.; vice-presidents: Alexius M. Forster, Colorado Springs; H. R. M. Landis, Philadelphia; secretary and treasurer: Arthur K. Stone, Framingham Centre, Mass.; recorder, Cleaveland Floyd, Boston.

##### PROGRAM OF SCIENTIFIC SESSIONS

Thursday, May 1, 1924, 10 a. m.

President's address, Gordon Wilson, Baltimore, Md.

1. The Confessions of a Therapist, with Some Meditations on Modern Therapy, by Charles L. Minor.
2. Bronchial Asthma as an Occupational Disease, by Herbert M. Rich.
3. Clinical Management of Bronchial Asthma, by Walter A. Baetjer.
4. Two Years' Experience with the Use of Insulin in Diabetes Mellitus, by James E. Paullin.
5. The Symptomatology and Diagnosis of Chronic Ileus, by John A. Lichty.
6. Transient Cerebral Paralysis, by Robert Wilson, Jr.

Thursday, May 1, 1924, 2.30 p. m.

7. The Surgical Treatment of Pulmonary Tuberculosis, by James A. Miller and Adrian V. S. Lambert, M.D.
8. Intratracheal Tumors, by H. R. M. Landis.
9. An Apparatus for Limiting Chest Movements in Pulmonary Tuberculosis, by Alexius M. Forster and T. J. Kinseila, M.D.

10. The Dietetic Management of Tuberculosis Enteritis, by Gerald B. Webb.

11. Basal Tuberculosis, a Case Record Study from Gaylord Farm, by David R. Lyman and Albert S. Lathrop, M.D.

12. Clinical Studies of the Healing of Tuberculosis; Absorption of Pulmonary Deposits, by J. Burns Amberson, Jr.

13. "Experimental Investigation of the Alleged Greater Susceptibility of Young Animals to Tuberculosis," by Allen K. Krause.

Friday, May 2, 1924, 9 a. m.

#### By Invitation

14. The Response of the Cardiovascular System to Respiratory Exertion, by Harold M. Frost, M.D., of Boston. Discussion opened by Thomas N. McMillan, M.D., of Philadelphia.

#### SYMPOSIUM ON PROGRESS IN HEART DISEASE

15. Prognosis in Organic Heart Disease, by George W. Norris.

16. Prognosis in Angina Pectoris and Kindred Disorders, by Louis V. Hamman.

17. Prognosis in the Tachycardias, by James S. McLester.

Discussion opened by Robert H. Babcock, James E. Paullin and Paul D. White.

18. Effort Syndrome and Its Clinical Course, by William B. Porter.

19. Pneumococcus Endocarditis, by Edwin A. Locke.

Annual meeting and election of officers.

Friday, May 2, 1924, 2.30 p. m.

20. End-Results in the Pneumothorax Treatment of Pulmonary Tuberculosis, by Ray W. Matson and Ralph C. Matson.

21. By-ways in Pneumothorax Therapy, by Paul H. Ringer.

22. Work Cure: The Care of the Tuberculosis Patient after the Rest Period, by William Le Roy Dunn.

23. The Relation of Blood Coagulation to Tubercle Formation, by William Charles White and M. I. Smith, M.D.

24. Tuberculosis and the Medical Profession, by John B. Hawes, 2nd.

25. An Attempt to Classify X-Ray Cases of Suspected and Definite Pulmonary Tuberculosis, Showing No Easily Recognizable Parenchymatous Lesion, by Fred H. Heise and Homer L. Sampson, M.D.

The Japanese Earthquake—A Personal Experience—Lantern, by Judson Daland.

Annual dinner, 7 p. m.

Saturday, May 3, 1924, 9 a. m.

26. Clinical Observations in Coronary Disease:—The Differential Diagnosis between Coronary Thrombosis and Gallstones, by Paul D. White and James Faulkner, M.D.

27. Banti's Disease—Possibly of the Third Generation, by Charles H. Cocks.

28. Blood Sugar Retention in Carcinoma, by Thomas C. Kelly.

29. Diagnosis of Pulmonary Abscess, by Judson Daland.

30. A Study of Case Records with Reference to Tonsillectomy, by L. J. Moorman.

31. The Function of the Liver in Nephritis, by Thomas Klein.

32. A Clinical Study of Deficient Pituitary Functioning, by Jay Perkins.

(Names in italics are not members of the association but have been placed upon the program at the request of the readers of the papers.)

#### CENSORS' MEETING

The Censors of the Middlesex South District Medical Society will meet at the Colonial Club, Quincy Street, Cambridge, on Thursday, May 1, 1924, at 2 p. m.

J. H. TAYLOR, M.D., *Secretary*.

#### CENSORS' MEETING

The censors of the Suffolk District Medical Society will meet for the examination of candidates at the Medical Library, No. 8 The Fenway, Thursday, May 1, 1924, at 4:00 o'clock.

Candidates should make personal application to the Secretary, and present their medical diploma at least one week before the examination.

LESLIE H. SPOONER, *Secretary*.

520 Commonwealth Avenue.

#### DISEASES REPORTED TO MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

WEEK ENDING APRIL 12, 1924

Disease	No. of Cases	Disease	No. of Cases
Anterior poliomyelitis	2	Ophthalmia neonatorum	25
Anthrax	1	Pneumonia, lobar	146
Chicken-pox	191	Scarlet fever	418
Diphtheria	144	Septic sore throat	2
Dog-bite requiring anti-rabic treatment	7	Syphilis	30
Encephalitis lethargica	4	Suppurative conjunctivitis	11
German measles	85	Trachoma	1
Gonorrhea	93	Tuberculosis, pulmonary	124
Hookworm	1	Tuberculosis, other forms	25
Influenza	11	Typhoid fever	9
Malaria	2	Whooping cough	95
Measles	956		
Mumps	377		

#### SOCIETY MEETINGS

##### SUBJECT SOCIETIES

*Bristol South District Medical Society:* The annual meeting will be held in New Bedford, May 1, 1924.  
*Essex North:*—Annual meeting at Lawrence General Hospital, May 14, 1924.

*Essex South District Medical Society:* May 7, 1924:—Annual meeting, Relay House, Nahant, in conjunction with Lynn Medical Fraternity.

*Franklin District:*—Society meets at Greenfield the second Tuesday of March, May, July, September. Annual meeting in May.

*Hampden District:*—The meetings for the year are as follows:

April, 1924, at Springfield; annual meeting.

*Hampshire District Medical Society:*

Meetings held bi-monthly, the second Wednesday in the month.

*Norfolk South District:*—Meetings first Thursday of each month at 11.30 a. m., April and May, at United States Hotel, Boston.

The May meeting is a stated meeting.

*Suffolk District Medical Society:*

April 30, 1924:—Annual meeting to be held at the Boston Medical Library at 8.15 p. m.

*Worcester District:*—The meetings for the year are as follows:

May 8:—Annual meeting.

#### STATE, INTERSTATE AND NATIONAL SOCIETIES

May 1-3-5:—American Climatological and Clinical Association will meet at The Ambassador, Atlantic City, for its annual convention.

June 3 and 4:—American Urological Association at Ambassador Hotel, Atlantic City, N. J.

#### SPRING SONG

I walked down to the hospital to where  
A dingy lawn ran down from wall to street,  
Gray-brown and littered; bits of grass were there.  
Just greenening, Spring's first messenger to greet.  
The sun struck down; the April air was mild,  
A touch of yellow gleamed, a golden wheel;  
Was this a dandelion, Spring-begulled?  
Alas, 'twas just a piece of orange peel.